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Work Gives His View on Meaning of Minerals Conservation

By A. E. Heiss
N. P. N. Staff Writer

WASHINGTON, Dec. 2—A DEFINITION of conservation which may help the American Petroleum Institute to determine what the Federal Oil Conservation Board desires it to talk about in answer to the request of the latter for observations, in detail, as to conservation, is contained in the annual report of Hubert Work, Secretary of the Department of the Interior who is also chairman of the conservation board.

Dr. Work, when asked to indicate what the Board desired of the Institute said he had nothing to add to the Board's letter to the Institute requesting something about conservation. The discussion in the annual report does not seem so interesting as that in which the secretary indulged in his recently issued review of the work of the department. It was not denominated an annual report or anything of the sort, but the inclination among those who read it was to regard it as of that nature. The definition or discussion of conservation in the annual report, released for publication to-day is as follows:

"Conservation concerns the perpetuation of the human family by making intelligent use of what nature provides. Conservation of the soil's fertility is vital to the life and the ultimate mental integrity of a people. It produces human food and its conservation is fundamental. Other natural resources should be conserved in accordance with their association in the scheme of living. This is particularly true of our raw mineral materials. These offer a special problem in conservation, in that once exhausted they are irreplacable. Mounting consumption and decreasing reserves, must through pressure of economic necessity force greater and greater attention to conservation of these products.

"The benefits of practical conservation, the result of applying thrift and efficiency to the task of making farming profitable, should be studied. In recent years public-land legislation has sought to promote the best utilization of the water power, the conservation of flood water, reserving of coal land from agricultural entry, and the protection of the oil industry from itself, by discouraging production in advance of possible needs. All these efforts toward wiser use of the great natural resources of the West were made by the Federal Government in its capacity as the largest landowner. The protection of the public estate, the guidance of the development of its resources, the promotion of the best use of the products of the national domain are practical objects, all summed up in the one word, conservation. "Best use" should be its keynote.

Use Without Waste

"Conservation of our natural resources, meaning their economic use without waste, and an intelligent distribution, as to time, is being applied in administering this department. Adapting this principle to the administration of mineral leasing on the public domain and Indian lands, including their agricultural sections, is one of its paramount problems.

The United States owns approximately 30,000,000 acres of coal lands with valuable coal deposits of more than 200,000,000,000 tons. It has 500,000 acres of phosphate lands, which can supply 8,000,000,000 tons of this essential fertilizer when it is demanded for American farms. There are 4,000,000 acres of oil shale in the public domain from which possibly 60,000,000,000 barrels of oil can be extracted when prices warrant the higher cost of its development. Before that time, however, there are millions of barrels of oil yet to come, from wells on government land, the amount now being taken from public and Indian lands representing one-tenth of the nation's

Oil Board Promises Public Hearings

By Special Correspondent

WASHINGTON, Nov. 30.—A renewed assurance that the federal oil conservation board would hold a public hearing on the answers of the oil industry to its questions was the outgrowth today of a Hearst newspaper report that the board had come to the conclusion that the nation's oil supply would be exhausted in seven years and that it had decided to make drastic recommendations to the president looking toward limiting the use of oil for industrial purposes where coal could be used.

Secretary Work, chairman of the board, said the board had reached no conclusions, decided on no recommendations, and in fact, had not considered any of the material supplied by the industry.

The board, he further stated, was now awaiting a digest of the answers made by more than 150 of the country's leading oil experts, and that until that information could be considered by the whole board, no conclusions could be reached.

To that he added that as soon as the advisory committee, headed by George Otis Smith, completed its survey of the material furnished by the industry, a public hearing would be held, at which those leaders of the oil industry interested in the inquiry into oil resources will be invited to express their views orally. Until that hearing was held, he added "no preconceived view or policy can be determined upon."

annual petroleum production. Already one-twentieth of the coal mined in the public-land states comes from mines operated under government lease, and 20 per cent of the zinc and 8 per cent of the lead mined in the United States comes from mines on Indian lands under supervision of this department. The public domain also contains hundreds of water-power sites with potential power aggregating 25,000,000 horsepower. There are a dozen or more water-power plants operating now in the United States of greater capacity for developing primary power than the site at Muscle Shoals and an equal number of unused sites of as great possibilities of development.

"To safeguard this vast estate for future generations of America and permit its economic development to supply present needs requires foresight and administrative skill. Five years ago congress enacted the general leasing law, which established the system of leasing mineral deposits on public lands to private operators, the government receiving bonuses and rentals as well as royalties on the minerals produced. At the present time there are outstanding 211 leases on government coal lands and 422 on oil and gas lands.

"To apply this conservation policy, a new line-up of mineral leasing activities was effected in the department during the past year through the organization of a conservation branch in the Geological Survey. In this enlarged unit were placed a group of geologists and engineers designated to act as technical advisers and administrators in the classification of the public lands and in the determination of their character. In addition, their duties consist of inspecting the mining operations and co-operating with the private operators in avoiding waste in the production of minerals on the public domain.

"Oil and gas leasing work was also reorganized in the conservation branch. Three field divisions were established under the jurisdiction of district supervisors or engineers in charge. They were given full authority and responsibility to conduct operations and represent the government in problems necessitating immediate decision not involving departmental policy, in place of the old practice of referring all questions of administration to the Washington headquarters. This is but another application of our administrative practice to centralize authority but decentralize responsibility. A feature to be stressed by the Geological Survey is the scientific examination of mineral areas of the public domain to promote and guide development by showing the practical values of the lands in terms of their wise use.

"With the creation of this new unit it is believed that the custodial care of our natural wealth of oil and gas, coal and other minerals has been placed on a practical administrative basis. Engineering efficiency, avoidance of waste, and the wise use of these resources are now being practiced and future public interests are being protected."

Hoover Creates New Economics Branch

Staff Special

WASHINGTON, Dec. 1.—Another step toward the grouping of all petroleum statistics gathered by the government was taken when Secretary Hoover, of the Department of Commerce, established the economics branch of the Bureau of Mines. This was done on the recommendation of the advisory committee, named some time ago to suggest beneficial changes in the Bureau of Mines, and Scott Turner, new director of the Bureau. C. P. White now chief of the coal division of the Bureau of Foreign and Domestic Commerce, was appointed head of the new division. The economics branch will take over the division of mineral statistics and will acquire from the Bureau of Foreign and Domestic Commerce most of its work on petroleum coal and other minerals.

Thus, gradually, all petroleum statistics gathered by governmental agents and made public are being put under one division. The figures on refinery and producing operations, formerly collected by the Bureau of Mines and the Geological Survey, respectively, when both were in the Department of Interior, have been issued for several months as one report, since the Bureau of Mines and the mineral resources division of the Survey were transferred to the Department of Commerce. The latter department then proceeded, through the Bureau of Mines, to collect figures on natural gasoline. Now, with all these, figures on imports and exports will be included.

Mr. White, who will be in general charge of all statistical work pertaining to mineral resources, has had diversified practical contact with mining. He was for years an operator of coal docks on the Great Lakes, of bituminous mines in Ohio and Pennsylvania and held executive positions in large corporations producing and shipping coal. He came into government service during the war as manager of the Lake and Canadian distribution of supplies under the U. S. Fuel Administration and later as assistant federal fuel distributor in charge of fueling of the northwest following the strike of 1922. He is a native of Ohio.

The new division of economics was planned to begin functioning on Dec. 1, if possible, or in any event not later than Jan. 1. D. A. Lyon will continue to direct the scientific work of the Bureau and will continue to act as assistant director of the Bureau.

Coming Meetings

Minnesota Petroleum Association, Duluth Hotel, Duluth, Dec. 4.

Rocky Mountain Oil & Gas Association, Great Falls, Mont., Dec. 4, 5.

Indiana Independent Petroleum Marketers Association, Columbia Club, Indianapolis, Dec. 9.

American Mining Congress, Washington, D. C., Dec. 9, 10, 11.

American Petroleum Institute, Hotel Biltmore, Los Angeles, Jan. 19, 20, 21.

Michigan Independent Oil Men's Association, Detroit, Mich., Jan. 21, 22.

Western Petroleum Refiners Association, Texas Hotel, Fort Worth, Tex., March 2, 3, 4.

Start Inspection Tour of South America

CHICAGO, Nov. 28.—Announcement has just been made that the officials of the Pan-American Petroleum & Transport Co. will sail from Key West on the yacht "Casiana" on Dec. 5, for a two months' trip of inspection of its properties in South America and Mexico. From Key West they will go to Havana and from there to Maracaibo, stopping at Kingston, Jamaica, en route.

The company controls extensive properties situated in Maracaibo Basin, Venezuela. The terminal is at the Island of Aruba, where extensive work is now going on in building a harbor and putting up tankage. This work will be looked into before proceeding to Maracaibo. Considerable time will be spent at the latter place as the company owns large acreage of proven and potential oil lands in the Basin.

From Maracaibo the officials will go to Caracas, and after completing their inspections will proceed to Tampico, Mexico, where the company has large interests. After a trip to Mexico City, the officials will return to the United States.

Those making the trip include:

Col. Robert W. Stewart, of Chicago, chairman of the board of directors, Standard Oil Company of Indiana and member of the board of the Pan-American Petroleum & Transport Co.; F. H. Wickett, chairman of the board, Pan American Petroleum & Transport Co.; Paul H. Harwood, vice-president in charge of marine; S. W. Chambers, head of the transportation department of the company; Edward Tinker, president of the Chase Securities Co.; H. C. Bretschneider of the Midwest Refining Co.; S. S. Price, chief geologist of the Dixie Oil Co.; L. Pennington, secretary to Mr. Wickett and Master Jack Stewart, son of Colonel Stewart, James Stewart, vice-president of the Lago Co. and president of the Pan-American Exploration Co. and H. A. Fitzsimons, president of the Fitzsimons Drilling Co. left a few days ago for Maracaibo in advance of the other officials.

Refinery Gasoline Reclaiming Plant Pays For Itself 3 Times in a Year

By J. C. Chatfield
N. P. N. Staff Writer

TULSA, Nov. 26

THROUGH the expenditure of $25,000 in new equipment, the operator of a fair-sized skimming and cracking plant in Oklahoma has increased the gross income of his plant $70,000 per year on the basis of average market prices for 1925 to date. The plant is that of the Johnson Oil & Refining Co. and the equipment added was a small oil absorption plant which is processing uncondensed still vapors and vapors from the Dubbs cracking plant.

The vapor recovery plant was put in service during the early fall and has been producing an average of 1650 gallons per day of water white gasoline which meets Grade Double A specifications for natural gasoline. In addition to adding as gross income the value of the product recovered at the plant, a saving will be shown in freight on natural gasoline which otherwise would have to be shipped in. At an average freight cost of three quarters of a cent per gallon the saving would amount to approximately $4500 per year, bringing actual gross income of the vapor saving plant to around $76,500 per year or over three times the original investment.

An important feature of the plant is the system of lines to crude and gasoline storage tanks on which a vacuum may be pulled if it is desired. This is calculated to reduce losses in case of a fire in the plant. Should there be a fire near one or more gasoline tanks it would be possible to manipulate valves in vapor gathering lines so that the 60-horse power low stage vacuum pump compressor used in the plant would pull a vacuum on the tanks endangered by the flames and thus keep them at atmospheric pressure and avoid spreading of the fire. The careful gathering of vapors from all parts of the plant will be important in reducing the chances for a fire on windless days when escaping gases might tend to hang about the plant.

When it was first planned to build the vapor recovery plant there was a scarcity of cool water at the Johnson refinery and in warm weather operators were finding it impossible to keep condenser coils cool enough to condense the lightest fractions of the crude. By drilling a number of wells near the property it has been possible to get a large supply of 60-degree cooling water. At the present time 1500 gallons of cooling water per minute are being pumped to the plant.

With this large supply of cool water the temperature of streams from condensers is being maintained at 70 degrees F. and the vapor plant is thus picking up only a relatively small quantity of uncondensed vapors at the tail house.

As mentioned above, vapor gathering lines from the recovery plant have been laid to the Dubbs cracking plant, crude storage tanks, gasoline rundown and storage tanks and to the tail house. Vapors from the cracking plant are carried direct to the absorber under their own self-generated pressure. From other parts of the plant where pressure is not maintained, vapors are picked up by the 60-horse power Clark compressor which pulls a vacuum of 10 inches at the intake and boosts gases through the absorber at a pressure of 15 pounds per square inch.

Gases Available at Plant

The Dubbs cracking plant yields an average of 800,000 cubic feet of uncondensed gases per day which show a gasoline content of 1.35 gallons per 1000 on charcoal test. Vapors from storage tanks and tail house, including those generated when pressure distillate is rerun, are much richer in gasoline content. Tests made of these gases have shown a gasoline content varying from as low as 2 gallons per 1000 to as high as 10 gallons. The average to date has been 5 gallons. The compressor has been handling an average of 200,000 cubic feet per day of the rich gas.

Due to the fact that the two different classes of gas show a widely different yield of gasoline it was determined by the builders to provide two separate absorbers and process the gas separately. One absorber handles only Dubbs vapors while the other handles all other vapors from the plant.

Fifteen gallons of absorption oil per minute are being pumped over the absorber which handles Dubbs vapors. Due to the richness of other vapors the oil rate to the second absorber is maintained at 21 gallons per minute.

Gas reaching the recovery plant varies widely in volume and gasoline content. The plant records show that production has gone as high as 520 gallons per hour at times while at others it has dropped to as low as 25 gallons per hour. For that reason the plant is built considerably oversize and the oil is pumped through the system at a faster rate than would be necessary all of the time. Production of the plant has been as high as 2200 gallons for a single day

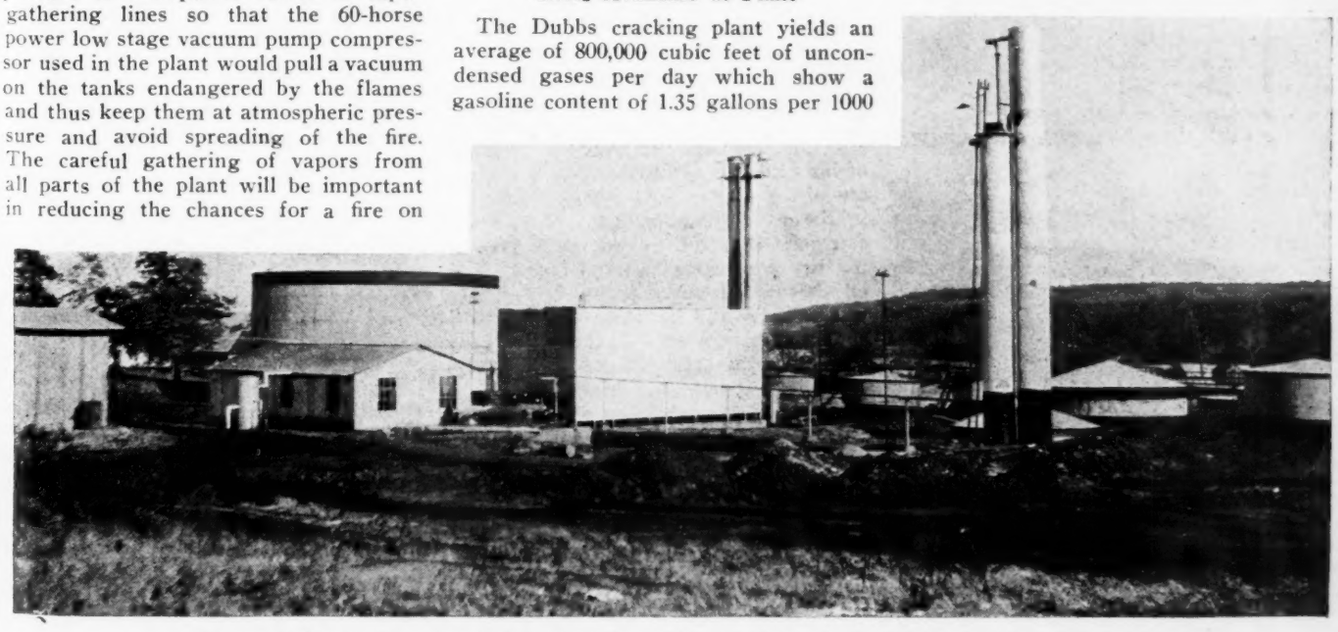

Fig. 1—Absorption plant installed by the Johnson Oil & Refining Co. at Cleveland, Okla., to process uncondensed still vapors and vapors from Dubbs cracking plant.

and has dropped to as low as 1500 gallons.

Absorption oil used at the plant consists of bottoms from pressure distillate rerun stills. The oil has an initial of 475 degrees F. and is extremely sour. Theory of the operators is that an absorption oil which contains a large percentage of heavy sulfur compounds will reject some of the sulfur compounds in the pressure still vapors while denuding them of their gasoline content.

Whether there is any merit to the theory or not practise has shown the plant to yield a water white product which lends itself to treatment quite readily. The gasoline recovered is run direct to refinery rundown tanks and both refinery and absorption gasoline is treated together in the continuous closed treating system employed.

Tests of production of the plant show an average gravity of 88 Be., recovery 90.5 per cent, initial boiling point 56 degrees F., 10 per cent distilled over at 75, 20 per cent at 83, 30 per cent at 90, 40 per cent at 98, 50 per cent at 107, 60 per cent at 116, 70 per cent at 128, 80 per cent at 150, 85 per cent at 168, 90.5 per cent at 208, dry point at 338.

The accompanying photograph, Fig. 1, gives a complete view of the vapor recovery plant. The small building at the left houses pumps and compressor, coil pit entirely enclosed on the sides but with an open top is at the center with two absorbers 3 by 50 feet at the rear. Vertical still, dephlegmator and condenser are shown at the right.

The recovery plant was designed and built as a turn-key job by the Forrest E. Gilmore Co., Tulsa, builders of natural gasoline plants and the Gilmore stabilizer which has been installed in a number of plants in California and the Mid-Continent.

The Gilmore distillation apparatus is an interesting bit of equipment rather different from the conventional type of fire still at natural gasoline plants. The still consists of a vertical firing chamber made of a 30-foot length of 20 inch casing. Around this is welded a 26-inch shell through which the rich oil is pumped.

The still is fired with gas with thermostatic control to keep rich oil going to the vapor separator at 275 degrees F. Rich oil is charged to the still at the bottom.

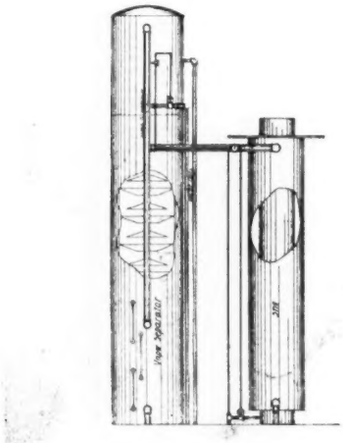

Fig. 2.—Construction of the still and vapor separator with cutaway section showing baffling.

The vapor separator is a 36-inch tower fitted with a series of baffles to give an efficient scrubbing of absorption oil from gasoline vapors. The accompanying drawing, Fig. 2, shows construction of the still and vapor separator with cutaway section showing baffling.

The top eight feet of the tower is a tubular type dephlegmator of conventional design. Cold oil is pumped through this rather than water to avoid corrosion. The vapor separator and dephlegmator together form a tower 40 feet high.

The Johnson refinery at Cleveland is a 4000 barrel plant which runs an average of 3200 barrels per day to stills. It is equipped with four Dubbs units.

Wheeler Oil Permit Affair up Again

Staff Special

WASHINGTON, Dec. 2.—Another skirmish in one of the battles growing out of or arising coincidentally with the so-called Teapot Dome—Elk Hills naval reserve scandal was completed to-day. It was an argument on a demurrer filed by Senator Wheeler of Montana and Edwin S. Booth, former solicitor for the Department of the Interior to the indictment accusing them of conspiring, with Gordon Campbell, to defraud the United States of land by obtaining more than one permit to explore for each.

By demurring to the indictment Wheeler and Booth admitted the facts alleged in the indictment, for the purpose of the pleadings, so they might argue that even if the facts were as alleged, no violation of law had been charged. In addition to that Senator Walsh, also of Montana, claimed that Wheeler was acquitted in Montana of the charge upon which the indictment in the District of Columbia was based. He claimed it was but another version, if there was that much of a difference. Furthermore he claimed that the indictment was obtained by the Department of Justice as an act of vengeance against Wheeler because of his activities against it. Wheeler was one of the most violent users of language in the naval lease matter. He was a star performer in the chorus which Senator Bruce of Maryland contended helped defeat the party for which Walsh was working and for which Wheeler was supposed to be working until he accepted the nomination for vice-president on the LaFollette ticket.

To point out how rediculous the government was accusing his colleague, the Montana senator said that the leasing law did not confine the number of permits one individual might obtain to one and therefore Wheeler could not have conspired if and when he arranged to obtain more than one permit for Campbell or his company. The senior Montana senator, the so-called "prosecutor" in the naval lease matter, talked for three hours and a half to the end that the indictment might be set aside and Wheeler saved from the bother of answering in court for what he did in the way of "using his influence" in behalf of Campbell's applications for permits or other documents entitling him to obtain oil from government lands. Lawyers of lesser notoriety, if of greater fame as practitioners at the bar used up the remainder of the day on which Walsh started and yesterday some for Booth and for the government.

This indictment against Wheeler, seemingly, is a secondary line of offense by the government against Wheeler. In Montana, the home state of the accused senator public men have been saying for years, there is considerable opinion that taking things from the government, especially timber or other resources, instead of being deemed an offence, is a public duty, almost. Senator Borah himself was once indicted on an accusation that he tried to obtain timber land unlawfully, but like Wheeler, he was acquitted.

Eastern Oil Co. will End Existence

Staff Special

TULSA, Nov. 28.—The Eastern Oil Co. is winding up its affairs and is preparing to close its Tulsa office, following the sale of all its properties to the Tidal Oil Co. As soon as all its affairs have been settled, the Eastern will pass out of existence, after a life of about 35 years.

The Tidal Oil Co. paid in excess of a million and a half dollars for the Eastern properties, consisting of 33 leases with about 1150 barrels production, located in Creek, Nowata and Tulsa counties. Some properties also were located in Kay county, but are non-productive at present. The production is derived from 289 wells.

D. C. Morrison, who has for some time been manager for the Eastern in Tulsa, has announced that he is going into the oil business for himself and will retain one of the company's present office rooms for his own use. Harry Aggers, general superintendent, has not announced his plans for the future, nor has A. W. Lauer, chief geologist. Edward M. Wheeler, of Buffalo, N. Y., who has been general manager of the Eastern Oil Co. for the past four years, will come to Tulsa in January, and possibly will remain here, entering the oil business independently.

The Eastern Oil Co. was formed by the Gunsburg & Foreman interests, who also organized the Southwestern Petroleum Corp. Successive deaths of the organizers and principal stockholders rendered it advisable to dispose of the property in order to settle equitably the various estates interested in it

Oil Laws Must Come From States Not Government, Says Reeser

TULSA, Nov. 30.

SINCE the appointment by President Coolidge of the Federal Oil Conservation Board, a discussion has been conducted on the present economic status of the oil industry and an appraisal of its future which is unparalleled in the history of the industry. The federal board aroused the discussion by the questionnaire method, all divisions of the oil business being covered exhaustively.

Shortly after the appointment of the board, National Petroleum News began the publication of opinions of prominent oil men, to afford the widest possible discussion of the important questions involved in the study the board is making. That policy has been followed ever since. Among the men this journal solicited expression from was E. B. Reeser, vice-president of the Barnsdall Corp., and president of its oil producing subsidiaries, who stated his position on the questions raised in the inquiry and consented to the publication of his reply to the federal board's questionnaire.

Of primary importance, in his opinion, is the need of state laws prohibiting the blowing of gas into the air in order to get through to the underlying oil. Mr. Reeser believes this would effect, very simply, the desired ends of the conservation and of stabilization of the industry itself.

Lack Constitutional Power

To appreciate the position taken by Mr. Reeser, wherein he suggests state legislation as the only available remedy, the reader will observe that he is of the opinion that perhaps neither Congress, nor the executive officers of the Federal government have power under the Constitution to control, either directly or indirectly, the production of oil or gas on privately-owned properties in the several states, and no power whatsoever to regulate the same. Of course, this does not apply to government land.

Mr. Reeser suggests that in published accounts of the statements issued by the Oil Conservation board in January, 1925, and in the letter of Secretary Hubert Work, in which he outlined the scope of the proposed inquiry, it appears that the crucial proposition advanced was as to what could be done in the way of testing new grounds for oil reserves, opening them for production as needed. Also, he says, there was the question of the elimination of oil as fuel in competition with coal. He is of the opinion that Congress has no power to legislate in this regard and that the Inter-state Commerce clause would not support such legislation.

He reminds the reader that the Child Labor law was declared unconstitutional by the United States supreme court as an instance of legislation which should properly emanate from the several states. He said also that the war power granted Congress would not support legislation designed to interfere with or control the oil industry as those powers were operative only during the continuance of actual warfare. The Supreme court has held in various cases since the war, he said, that the government must pay full compensation for any property seized and that the government is not the arbiter of the damages. Needs of the navy, perhaps can be supplied by exercise of the right of eminent domain, he believes, but even this would require full compensation. This would be fair, as it would place the burden of the patriotic duty of anticipating the wants of the government on the people, through taxation, and not on those engaged in one industry.

States Could Do It.

Assuming that the government has no power to regulate or supervise the business of producing either oil or gas within the limits of the several states of the Union, Mr. Reeser suggests that the only practical relief, to his mind, is legislation by the states in the exercise of their general police powers. In his answer to the questionnaire, he expresses the opinion that a state law absolutely prohibiting the waste of natural gas or allowing it to blow off while drilling for lower oil horizons is going on, would effectually bring about the desired end; that is, it would retard the bringing in of new fields and would keep both the oil and gas in the ground until such time as they were needed and could be marketed. Such legislation by the states is supported by authority of the supreme court of the United States, and Mr. Reeser believes he is on the right side of the problem, from a scientific, as well as from a legal standpoint.

Following is a copy of the Federal board's questionnaire, (questions in Italics) with Mr. Reeser's answers:—

Letter to Federal Board

In reply to your questionnaire of February fourteenth, I beg to submit the following:—

(1) *Generally, in what directions do you consider that waste in production could be reduced and stabilization effected?*

The rules and regulations followed in the Osage Nation of Oklahoma eliminate practically all waste in the production of oil. It would be difficult to put into effect the same regulations were the oil and gas owned by one and the same party, unless a market for large volumes of gas were available. This, of course, is impossible in remote sections where new fields are found. The alternative would be a state law which positively prohibits the blowing of gas into the air. This would retard the drilling of new wells until the gas could be utilized and stabilization of the industry would thus be effected to a large degree.

(2) *What is your estimate of overproduction, if any, at this time? (a)—If there is overproduction, what is it costing the industry in expense of storage, in dumping of surplus on the fuel market or in other ways? (b)—What are the underlying causes of such overproduction and the remedies?*

The crude oil in storage at this time, as a result of the overproduction of the last few years, is costing the industry enormous sums of money which can only be computed by the various companies concerned. (b)—The cause of such overproduction is the completion of wells in territory owned by numerous companies and the necessity of each company to "offset" other wells in order that their territory is not drained by their neighbors.

(3) *With the present day development of technique for finding oil and for producing oil at a rate never before attained, how can the brakes be put on the "bringing-in" of new pools and unneeded production? (a)—What can be done in exploration of new pools or fields, without exploitation until the market demand warrants new production? (b)—How can the government and the industry co-operate in encouraging the creation of drill tested reserves to be opened as needed? (c)—This would mean not conservation as some define the word, but simply delayed production rather than wasteful production, which threatens to deplete the Nation's oil resources.*

The production of oil at "a rate never before attained" is, in my opinion, not due entirely to improved "technique," but rather to increased activity in drilling wild-cat wells. In 1901, which was prior to the general use of geologists, seventeen per cent of all wells drilled in the United States were nonproductive. In 1923, twenty-three percent of all wells drilled were dry. (a), (b), (c)—The desired conditions would be realized, at least in part, by having in effect the method referred to in my answer to your question one.

(4) *How imminent do you regard any serious difficulty in meeting the country's oil requirements? (a)—Should shortage be anticipated by preferential use? (b)—Should a shortage in domestic crude come, what will the future offer in the way of substitutes—foreign oil, oil shale, coal distillates or organic distillates?*

I do not think there will be any difficulty in meeting the country's oil requirements for many years to come, if the method referred to in answer one is put into effect. (a)—The preferential use of oil for only the most efficient purposes will follow the adoption of my suggestion and the obvious increase in costs which will follow as the result of the law of supply and demand.

(b)—Oil shale and coal distillates will take care of your future requirements.

(5) *Under present conditions, is oil being produced and used as fuel that could and should be replaced by coal? (a)—What is your estimate of the amount, if any, of this unnecessary use of oil as fuel and what are the effects on the oil industry?*

Large quantities of oil are being used as fuel that could and should be replaced by coal, but I am unable to give any reliable estimate of the amount.

(6) *Under the present methods of producing oil, what is your estimate in volume of the waste of oil and gas? (a)—Can you list the principal causes and suggest means of avoiding or reducing the waste?*

I can not give a reliable estimate of the enormous volume of gas that is being wasted, but a large proportion of the waste can be stopped by the adoption of the several states of laws, which will prohibit the escape of gas into the air, providing of course the law is enforced. Very little oil is being wasted after it has been brought to the surface. The amount of oil lost in transmitting it from the producing properties to the various Refineries is, in my opinion, negligible.

(7) *Do you regard changes in technical methods in the production and consumption of oil as promising relief in reducing the present high percentage of waste, or do you recommend changes in laws governing possessory right in oil and gas as necessary to avoid the present scramble for oil? (a)—Do you, as an alternative to legislation, see any promise in co-operative agreements providing for the unit leasing, or the unit operation, of all the lands in an oil pool?*

So long as gas escapes into the air, or is otherwise wasted, loss in the recovery of oil will follow. The State of Oklahoma has laws at this time which, if enforced, would have retarded the production of oil to such an extent that the recent overproduction would have been very much minimized. It is my opinion that, if the regulation suggested had been rigidly enforced in the various oil producing states, there would not have been any overproduction. It is not too late to conserve producing areas not yet found for future use. It appears that legislation controlling regulations along the lines suggested will be constitutional and, to support this statement, I refer you to the case of "Ohio Oil Company, 177 U. S. 190," which came from Indiana, wherein oil producers were prevented from blowing gas into the air, although they answered that they could not get their oil unless they did so. The Supreme Court held that this made no difference. (a) I do not think it probable to secure the adoption of a co-operative agreement which will provide for the unit leasing, or the unit operation, of all the lands in an oil pool.

The Pennsylvania Petroleum Co., Fifteenth and Charlotte sts. North Kansas City, Mo., will construct a new 1-story storage and distributing plant, 115 x 175 feet, L-shaped, to cost about $55,000. Charles A. Smith, Finance building, is architect.

Stoll Line Regularly Running Oil from Tennessee Pool

Staff Special

LOUISVILLE, KY., NOV. 28.—The Stoll Oil Refining Co. of Louisville started running crude a few weeks ago from the Tinsley Bottom pool in Clay and Jackson counties, Tennessee, through their new pipe line 17 miles to a loading rack at Windle, Tenn. From Windle it is shipped to the Stoll's Louisville refinery by rail. About 15,000 barrels of crude had been shipped on Nov. 20 and almost as much more was waiting for shipment.

Fourteen producing wells and 21 dry holes had been drilled in the pool by Nov. 20 and the extent of the pool had been pretty well delineated on three sides, it is said. Production is found in a Trenton formation at a depth of 450 to 500 feet. The Sunnybrook sand which is the producing horizon in Cumberland County, Ky., fields to the north, showed only traces of oil in Tinsley Bottom.

Tinsley Bottom received some attention about 20 years ago but little drilling was done in the field until about a year ago when Dafo interests discovered an old hole filled with oil. Then another well was drilled, the No. 2 Draper, and it flowed 3,000 barrels initial but was shut in because of the lack of storage facilities and means to ship out the crude. The Stolls became interested and made plans for the pipe line which was constructed this year.

The Draper well was re-opened when the pipe line was ready for operation and flowed 250 barrels in less than 24 hours. It is in 22 feet of sand. It is the biggest well brought in so far.

Besides the Dafo interests those drilling in the field include B. J. Bullitt, Rex Pyramid Co., Enfield interests, and men affiliated with the Louisville Petroleum Refining Co.

The Stoll pipe line is of 2 and 3-inch pipe and 17 miles long. From the pumping station in Tinsley Bottom there is a lift of 575 feet in the first mile and a half, then a lift of 15 feet in between six and seven miles, and then a fall of 300 feet to the loading rack which accomodates five tank cars.

The pumping station is equipped with a 30 H. P. Primm oil engine, one Gardner high pressure pipe line pump, and two auxiliary pumps, one a Dean-Worthington, and the other a Fairbanks Morse.

Eleven hundred pounds pressure is required to raise the load to the summit of the line but once the oil starts flowing over the peak the necessary pressure falls to 500 pounds. The line and equipment cost $40,000.

The Stolls are expecting to take about 15,000 barrels of crude a month from the field and expect to extend their auxiliary lines as more wells are brought in.

The oil is of 38 gravity of mixed base but with little asphalt. The Stolls are paying the Somerset light price less 17 cents per barrel freight differential.

Supplies are hauled to the field by truck from Cooksville, Tenn., at 60 cents per hundredweight. Roads are good and it is planned at present to continue drilling all winter.

Three weeks ago the Alto Oil Co. brought in its No. 1 Orville Cheatham well in the Crocus creek district of northeast Cumberland county, Ky. It flowed a barrel a minute for 100 minutes. It is about 14 miles from the nearest production of consequence. It was in the Sunnybrook sand at 235 feet. The same company later brought in its No. 1 Dick Cheatham in the same district. It flowed 50 barrels the first day through a 3/8-inch choke. Hazlett and Wood are drilling two tests in Adair county.

The Valley Oil Co., Middletown, Conn., held a conference during the Louisville convention. J. H. Porteous, left, and J. Lloyd Rush, same company, same town, same brand of cigars.

Fifteen Years of Progress

WE measure progress by comparison with the past. Take the development of the association idea among oil jobbers in the 15 years that have elapsed between the first annual meeting of jobbers at Louisville in 1910 and that of a week ago.

The growth in attendance was more than five times. The association today has great income and net assets by many, many times greater than 15 years ago and it is doing work many times more effective, but above all it has a standing in the industry and a standing among its own members that represents a still greater growth than all these.

It is not always well to look back, lest one compliment oneself into a weakening complacency, but occasionally a backward look does good because it will show how firm a foundation one may be standing on today. For that reason this backward look is justified. It shows a foundation of association work today far more firm than the most optimistic of us of 15 years ago ever dreamed.

And what is the reason for this firm foundation with its great association structures rising therefrom?

The reason is that under the present leadership of Mr. Nicholas, the association quit the everlasting begging for members against the day when it thought it might have enough to then go out and do something for these members. When Mr. Nicholas took charge four years ago he dropped the membership campaign idea and almost the sole association activity and turned to perfecting the association work itself and what it stood for so that men would want to become members and would get something from that membership when they took it out.

Mr. Nicholas turned to the really national problems of not only the oil jobbers but of the oil industry. His ideas did not crystallize at once. His methods were not developed overnight. He had to grope around in the darkness of his own ignorance of the problem as well as the ignorance of the industry. The growing pains were not always pleasant. But the main problem was always kept in front until solutions began to appear.

The big result of all this has first, been straighter thinking on the part of all and the development of an ability to find the facts, look them in the face and study them from all sides.

This is a most general statement, one in the class of "glittering generalities", but it is the only kind that will cover the bigness of the thought. From this development of sounder thinking come activities that are more easily seen and appreciated. Among such are the national advertising to put over the existence of Independent competition in the oil industry with all the necessary brands of different petroleum products and its supplementary campaign, just decided on, to develop from association headquarters the sale of industrial lubricants by Independent oil jobbers—or marketers —if you will.

On the buying side of the oil marketer's problem of existence, we have the co-operative purchasing bureau in association headquarters and right now a special committee to investigate the feasibility and desirability of a co-operative refinery or two. We look upon these, not as finished activities, but simply as efforts to think out—if you will pardon the expression—and work out the problem of the relationship between the refiner and the jobber. They will be of value not for what they may happen to amount to in and of themselves, but as means of educating all concerned that a real solution may be reached.

The solving of this relationship to the satisfaction of all is probably the biggest problem before the oil industry today because it concerns the fundamental operating problems and price problems of the industry and involves the industry's relationship with the public. We believe this solution is much nearer than is realized because we believe that the oil industry particularly the refiners and marketers, have had more sound education on the economics of the industry and on each other's troubles, and are doing more actual hard thinking than we have any idea of.

A solution of any problem is not possible until one side can look at that problem from the other side also. We believe refiners are seeing the jobbers' side more clearly than they think, and the same is true of the jobbers seeing the refiners' viewpoint.

The world progresses largely by trying out all kinds of ideas and discarding those that don't work. We long since have gone through the period of each side dealing with the other as if the latter was a horse thief. We have passed through the period of an absolute guaranteed margin for the jobber and we are now just finishing up the period of letting the other man make our prices without question. We have also gone through the period when the refiner refused to recognize that it was supply and demand that affected his price to the jobber and not what it cost to make the goods. We are also, on the refiner's part, just winding up the period, we believe, when the refiner realizes that he can't dump his refinery surplus on the open market to the jobber without affecting the price at the same refiner's service station.

All of these educational factors, we believe, have brought the refiners and marketers to a point of thinking which bids fair to work out a practical solution to their relationship. This solution will not be arrived at tomorrow, but it is far nearer than ever before because the industry today is actually thinking, while in the past it has indulged largely in brainstorms with each individual nursing some personal grouch.

Five men are largely to be credited with this improvement in oil industry thinking. It is hard to draw the line as to where the effect of one's activities leave off and the others begin. Each has come naturally into the situation to balance the thinking. R. L. Welch, as secretary of the American Petroleum Institute has exerted an almost phenomenal effect on the fundamental thinking of the industry as a whole. Supporting him on the crude oil end of it particularly are W. N. Davis, president and Harry H. Smith, secretary of the Mid-Continent Oil & Gas Association; on the refining end is Howard Bennette, secretary of the Western Petroleum Refiners Association and on the marketing end is L. V. Nicholas, president of the National Petroleum Marketers Association. Many others have assisted but to these five we must credit real leadership.

I write most feelingly on this subject and believe I am at least among those qualified to express the foregoing opinions. I have not only had 17 years, this coming February, of sitting on the sidelines, so to speak, reporting the activities of this vast oil industry, but for the first six years of the life of what is now the association of which Mr. Nicholas is president, I was its secretary, in addition to my duties with this paper.

I was in it when the marketers' association started from scratch, when 25 jobbers put up $10 a year each and agreed to pay assessments, if necessary, of not more than $20 a year additional. Compare that with the association work as it stands today under Mr. Nicholas, an association which has already financed a national advertising campaign of $192,000 for next year. And this is only one of its many activities.

That achievement has been possible by means of ideas and ideals which have been fermenting all these years which have been brought into practical realities by sound leadership, farseeing leadership, which has always looked to the bigger things in not only the oil industry, but in man himself.

All these have made the oil industry a far better industry than it ever was, and the oil men far better business men and better men themselves than they ever were.—W. C. P.

National Petroleum News

Compilation Of Mid-Continent Refinery Operations

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Despite Big Gas Shipments Stocks Are Increased

By Fast Wire Service

TULSA, Dec. 1

STOCKS of gas and fuel oil continued to be drawn on at refineries in the Mid-Continent the last week in November, according to reports gathered by National Petroleum News from 124 plants, with daily still capacity of 460,100 barrels. Heavy oil stocks declined over 2,000,000 gallons to 185,385,983 gallons. Gasoline stocks increased a little over a million gallons, and kerosene stocks showed their first substantial increase in a number of months.

Crude runs at the plants covered by this weekly survey increased roughly 1000 barrels per day to an average of 245,676 barrels. Charges of partly refined oils to stills increased around 5500 barrels per day, to an average of 52,768 barrels.

North Texas refiners reduced their crude runs 11,000 barrels per day, but increased their charges of rerun oils slightly. Oklahoma refiners increased their crude runs nearly 4000 barrels per day and their charges of partly refined oils 15,000 barrels per day. North Louisiana and Arkansas plants increased their crude runs, but reduced their throughput of partly refined oils.

There was a sharp increase in production of gasoline, particularly in Oklahoma as a result of the shift in method of running. This increase in gasoline production was accompanied with an increase in shipments. Larger demand for motor fuels was not sufficient to offset larger production, however, so stocks increased 1,300,000 gallons to 52,750,452 gallons. Gasoline shipments were larger from every field, with the exception of North Texas and the same was true of production. Texas refiners were the only ones to draw on gasoline stocks.

Shipments of kerosene fell off nearly 50 per cent, or 3,000,000 gallons, as compared with the previous week, to a low point of 3,194,215 gallons. This loss in shipments was confined largely to Oklahoma and Kansas. In the former state shipments decreased over 1,000,000 gallons to 1,241,371 gallons and in Kansas shipments fell over 1,000,000 gallons to 535,339 gallons, while production for the week in that area was 1,385,347 gallons. This is the first time kerosene shipments have fallen much below production for several months. Stocks at the close of November are 6,000,000 gallons below those at the end of July.

Fuel oil shipments during the week registered a small loss, as compared with the third week of the month. Production was increased 5.5 per cent. Stocks were reduced 2,100,000 gallons, bringing the total reduction in heavy oil stocks for the four full weeks of November up to 15,919,912 gallons.

Summary for Month

Production and shipments, all reporting refineries for four weeks ended Nov. 27. Change in stocks figured from Oct. 30.

Gasoline

	Gallons
Production	112,241,780
Shipments	112,536,752
Net change in stocks	—294,972
Ratio sales to production	100.3%

Kerosene

Production	22,810,127
Shipments	20,784,437
Net change in stocks	+2,025,690
Ratio sales to production	91.1%

Gas and Fuel Oils

Production	141,822,264
Shipments	157,742,176
Net change in stocks	—15,919,912
Ratio sales to production	111.2%

Late Tank Wagon Changes

TULSA, Dec. 1.—On Dec. 1 Magnolia Petroleum Co. advanced tank wagon and service station prices of gasoline 1 cent throughout Oklahoma, making prices 18 cents and 21 cents respectively generally throughout the state. This advance was made to meet a similar advance made by the Marland Refining Co. on Nov. 28.

On Nov. 26 Magnolia had reduced Oklahoma points 1 cent to 17 cents at the tank wagon.

Mid-Continent Refinery Operations Week Ended Nov. 27 (By Fast Wire)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Total	%Change Previous Week	Totals Week Ended Oct. 30
No. of Plants	23		46		41		14		124		124
Da. Still Cap. (bbl.)	98,200		165,900		144,300		51,700		460,100		460,100
Da. Av. Crude Run	56,027	+ 2.4	98,128	+ 3.9	50,428	—18.4	41,093	+22.1	245,676	+ 0.4	236,232
Da. Av. Other Oils	9,228	—27.0	26,255	+136.4	15,391	+10.3	1,894	—80.0	52,768	+11.8	67,430
GASOLINE—Gallons											
Stocks Nov. 20	7,530,050		24,685,412		15,467,582		3,812,220		51,495,264		55,903,838
Prod. 11-20 to 11-27	8,684,191	+12.0	13,439,030	+17.1	5,742,832	—13.3	2,487,821	+20.7	30,353,874	+ 8.7	28,139,858
Ship. 11-20 to 11-27	8,126,613	+ 8.2	12,701,670	+ 6.5	5,886,060	— 6.2	2,384,343	+27.2	29,098,686	+ 5.5	30,988,272
Stocks Nov. 27	8,087,628	+ 7.4	25,442,772	+ 3.0	15,324,354	— 0.9	3,915,698	+ 2.7	52,750,452	+ 2.4	53,045,424
Ratio Sales to Prod.	93.6%		94.5%		102.5%		95.8%		95.9%		110.2%
KEROSENE—Gallons											
Stocks Nov. 20	6,020,834		3,065,154		4,779,535		314,952		14,180,475		14,656,198
Prod. 11-20 to 11-27	1,385,347	—29.4	2,405,083	+34.3	1,116,140	—29.2	376,973	+ 5.8	5,283,543	— 7.1	5,219,158
Ship. 11-20 to 11-27	535,339	—69.3	1,241,371	—47.2	1,081,385	—43.0	336,120	+20.6	3,194,215	—49.1	5,631,243
Stocks Nov. 27	6,870,842	+14.1	4,228,866	+38.0	4,814,290	+ 0.7	355,805	+13.0	16,269,803	+14.7	14,244,113
Ratio Sales to Prod.	38.6%		51.6%		96.8%		89.2%		60.5%		107.9%
GAS AND FUEL OILS—Gallons											
Stocks Nov. 20	18,829,149		101,754,768		44,927,985		21,963,374		187,475,276		208,596,353
Prod. 11-20 to 11-27	7,565,078	— 2.0	13,976,664	+41.7	7,517,760	—20.6	8,841,704	— 0.3	37,901,206	+ 5.5	36,194,664
Ship. 11-20 to 11-27	7,482,494	—22.7	13,727,915	+27.1	10,684,706	— 1.2	8,095,384	—13.5	39,990,499	— 1.6	44,325,122
Stocks Nov. 27	18,911,733	+0.4	102,003,517	+ 0.2	41,761,039	— 7.0	22,709,694	+ 3.4	185,385,983	— 1.1	200,465,895
Ratio Sales to Prod.	98.9%		98.23%		142.1%		91.6%		105.5%		122.5%

Greatest Output of Cracked Anti-Knock Fuel Depends on Treating

By Paul Truesdell

Article 2

CLEVELAND, Nov. 29

THE established fact that a motor fuel made by cracking heavy oils into gasoline is superior in anti-knock value to straight run gasoline seems to put up to the chemists of the oil industry and the refinery operating men the most insistent and the most interesting challenge that has ever been offered them.

It was the chemists, chiefly, who developed the art of cracking in the first place, although the industry owes much to the mechanical engineers and the practical refinery men who played a large part in bringing the art to its present state of efficiency.

In the early days the only aim of the refiners was to get the greatest possible yield of marketable gasoline from the heavy oil that was commercially feasible—and gasoline was gasoline. At that time the value of anti-knock fuels and even the theory of the knock itself, were unknown.

Now the problem is to get the greatest possible yield, within commercial limitations, of motor fuel of the highest possible anti-knock value out of the heavy oil. This also is primarily a job for the chemists. For, of course, production of an anti-knock fuel involves chemical conversion of hydrocarbons with an aggravated tendency to knock into hydrocarbons of less knocking tendency.

Chemical Conversion of Paraffins

That means conversion of as high a percentage as possible of the paraffins, which usually predominate in the heavy oil, into aromatics and napthenes and their combinations which are almost numberless.

There are two principal ways of doing this. One is by use of catalysts and the other by heat with the use of pressure to retard the boiling point of the cracking temperature. In the field of cracking or conversion by catalysis, much work has been done and undoubtedly very important discoveries have been made. However, the work has been done by comparatively few men and companies and the results of their investigations are not available to the industry generally, being for the most part closely guarded secrets.

It is generally believed that some of the most important work along this line has been done by the Gulf Refining Co., in the development of the aluminum chloride process and by William G. Leaman using two catalysts the nature of which he keeps secret.

But while the field of catalytic cracking has been comparatively little explored by oil technologists in general, the field of pressure cracking is better known and seems to offer great possibilities.

In the first place, the general operating method of the various cracking processes that are in wide commercial use are thoroughly understood. In the second place, there are a great number of these cracking plants in refineries all over the country, making gasoline every day and these furnish the ready made laboratory for the study of improved methods of operation that will give an anti-knock fuel.

The aromatics are looked upon by most chemists as the most generally available anti-knock members of the hydrocarbon family, with the naphthenes next and various other unsaturated members, olefins and so on, playing their part. That is, when a paraffin base gas oil or other charging stock is properly handled in the cracking plant, the majority of the anti-knock constituents of the resulting fuel will be aromatics. Benzol, toluol, xylol and the other coal tar products recognized as anti-knocks are of the aromatic series.

The success of the refiner in making anti-knock fuel in his cracking plant, of course, will be measured by the percentage of the paraffins he is able to convert into aromatics, naphthenes or other anti-knock members in the process.

Factors in Development

Chemists say that the four principal factors in making a large yield of anti-knock fuel by pressure cracking will be the degree of pressure employed, the temperature used, the length of time the charging stock is exposed to the cracking reaction and the nature of the charging stock itself.

One chemist who has studied anti-knock fuels and the possibilities of their production in greater volume and has conducted many experiments from many angles, has found that by cracking kerosene in the vapor phase at about 1400 F. and under a corresponding pressure, he could convert the kerosene entirely into fixed gas, coke and benzol. This was done only on a laboratory scale and the losses were so high as to make it entirely impracticable, he says, in commercial operation. However, it shows, under proper conditions of heat and pressure how large a percentage of the paraffins can be converted.

Of course, in the attempt to improve the anti-knock value of their cracked gasoline, chemists and refiners will be limited by several factors. The first is, how high is it possible to run up the pressure without creating too great a hazard to life and property? Probably this factor will not be very troublesome because the latest developments in riveting and welding and the development of methods for making very large containers from one-piece steel forgings have made possible working pressures that were undreamed of a few years ago.

Then there is the question of temperature. The higher the pressure the higher the temperature that can be employed without undue loss in fixed gases. However, the question of loss and the question of volume throughput are very important factors in the problem. Temperatures that while they give a high percentage of conversion into anti-knock compounds, at the same time incur too heavy losses on the one end in fixed gases and on the other in coke formation, will not be economical.

Must Hold Up Throughput

Then, throughput must not be sacrificed too much to quality of product or the success of the process will be defeated. It should be stated that the conversion of kerosene into fixed gas, benzol and coke above described involved as well as a high percentage of loss, a relatively very long time of exposure to the cracking reaction. The longer the exposure necessary, of course, the more the volume of throughput would be curtailed and somewhere there would be a limit beyond which it would not be economical to go. The cracking stills must be operated as nearly continuously as possible and at as fast a rate as their earnings suffer.

Another factor that will have to be considered is the fuel cost of cracking at high temperatures. Some of the cracking processes now in general use have a pretty high fuel consumption, but this is constantly being reduced by improved combustion methods, air preheaters, recuperators and the like. Increasing the temperature of cracking will of course increase the fuel consumption and the result will be, probably, that a general campaign will be inaugurated by the refiners to increase the efficiency of the furnaces of their cracking plants so as to get the better results to be expected from higher temperature operation without running up fuel cost to an excessive point.

If temperatures and pressures are increased materially, probably this will lead refiners to investigate more closely the possibilities offered by special tubing and fittings of various kinds, designed for greater resistance than ordinary materials offer to increased heat and pressure.

All of these factors will undoubtedly receive much study from chemists and operating men in the next few months and the result will be that the possibilities of cracking stills will be developed to an extent far beyond anything that has been realized up to now.

But while all the factors above named are important, they probably will involve revision and improvement of present methods, with perhaps some changes in equipment, rather than radical revolution. The one place where radical change must be made if the production of anti-knock fuel by cracking is to be made successful in a large way, the chemsts say, is in the methods of treating.

Everybody knows that in the conversion of heavy oil into gasoline with the change in the molecular structure of the oil involved, compounds are formed which, if the gasoline stands in storage for any length of time, change into gums or resinous substances.

The Trouble Making Gum

Gasoline containing these compounds, if used in an automobile engine, will gum up the carburetor and stick the valves to an extent varying from irritating annoyances to complete ruin of the engine, according to the volume in which they are present.

The most widely used method of getting rid of these gum-forming compounds, which at the same time are the color-forming compounds that throw the gasoline off from water white color, has been and is to treat the pressure distillate with sulfuric acid which is then washed out with water and further neutralized with caustic soda, in most cases.

But now the chemists say that sulfuric acid is the villain in the piece; that it will destroy the anti-knock value of the cracked fuel if it is used as a treating reagent. It has long been known that acid-treating of pressure distillate left considerable to be desired but sulfuric acid was the traditional reagent for treating, refinery forces were familiar with it and it did its job well from one standpoint, that of removing the gum and color forming compounds, at least to the extent of making the gasoline a saleable and safe motor fuel.

It has been known that besides causing a considerable unnecessary volume loss of gasoline by taking out constituents from the distillate that were harmless and desirable, the evaporation and transfer losses of gasoline from putting it through the treating process were considerable.

But what has not been generally known until recently was that the harmless and desirable constituents which the acid takes out of the pressure gasoline are the very constituents that go to make an anti-knock fuel. So the refiner, be he ever so skilled and careful in developing his cracking equipment and the operating methods for it so as to get the utmost yield of fuel of the greatest anti-knock value, it appears, is going to destroy practically all of that anti-knock value if he continues to use sulfuric acid for removing the gum forming compounds and bringing the gasoline to water white color.

Theoretically this ought not to be so because chemists say that the aromatics are not soluble in sulfuric acid so that they ought not to be lost through acid treating. However, the acid does take out all the naphthenes from the fuel and the aromatics formed in the cracking reaction are not for the most part thoroughbreds. They are mongrels, some of them have side chains and are combined with other hydrocarbons in various forms and compounds. The acid absorbs some of these, polymerizes others and generally so changes the nature of the molecules that a great part of the anti-knock value is lost.

In fact it is hard, if not impossible, to separate a cracked distillate into its constituents, draw hard and fast lines and say, "here are the paraffins a certain percentage, here are the naphthenes, a certain percentage, here are the aromatics, a certain percentage." The whole thing is a kind of twilight zone with the various members tangled into an infinite number of combinations with each other—combinations that cannot be sharply separated and labeled and classified.

So it appears that a radically different method of treating cracked motor fuel is really the keynote in the further development of anti-knock fuels from ordinary cracking units. Considerable progress has been made along this line. Installations for treating with fullers earth cracked distillates in the vapor phase as it comes over from the rerun stills and fractionating towers, are already in successful operation in several refineries.

Chemists say that the field of possible treating reagents is wide and a great deal of work has been done and is being done in this field, so it seems likely that the treating problem will not prove much of an obstacle to further development. Some refineries are known to be using treating processes of their own other than sulfuric acid that do not have a degenerating effect on the cracked gasoline, but these processes are closely held secrets.

May Eliminate Re-running

Perhaps, with developments moving as rapidly as they are, the time is not far away when cracked distillate will be treated in the vapor phase or the liquid phase directly as it comes off the cracking stills without the necessity for rerunning and without removing any of the desirable constituents.

Another source of loss in pressure gasoline for which sulfuric acid is blamed is that of the lightest fractions which contribute the quick starting and warming up values. After acid treatment the initial of the gasoline is usually so high that it is necessary to give it a shot of natural gasoline to bring it within the limits of easy starting, especially for cold weather use.

With the light fractions left and a larger percentage of aromatics with their narrower boiling range and consequently superior warming up qualities, use of natural gasoline will be less necessary than before, in the opinion of chemists who have studied the matter carefully.

Laessig Sues to Defeat City Gasoline Tax

ST. LOUIS, Nov. 30—C. H. Laessig, president of the Automobile Gasoline Co. here and one of the pioneers of the Independent oil jobbing business, has filed suit against the city of St. Louis and the city license collector, prosecuting attorney and chief of police to test out the question as to how far municipal governments can go in piling one tax upon another on the shoulders of the oil industry.

The petition, which was filed in the circuit court of St. Louis, asks the court to declare null and void city ordinance No. 30,423 which provides for the collection of a city tax of half a cent a gallon on all gasoline sold in St. Louis.

The petition is based on the claim that the gasoline tax constitutes a duplicate tax; that it is contrary to the statutes of Missouri and the constitution of the United States and that it is confiscatory of the company's property.

The petition points out that the city charter and ordinances enacted under it provide for an ad valorem tax on all merchants of one fifth of one per cent on the value of the largest amount of goods on hand in a specified period of the year and a license tax of $1 on every $1000 or less of sales made during the preceding year.

The argument is that the city government, having assessed the ad valorem tax and the license tax against merchants dealing in all commodities has no right to pick out the gasoline merchants alone for an additional tax, as the petition claims is done by the half-cent gasoline tax ordinance.

Plaintiff states that the license collector has refused to accept payment of the merchants' license tax as provided for under an earlier ordinance and that it has refused to pay the half cent tax on gasoline on the ground that it is unconstitutional.

The suit is being handled by the law firm of Bryan, Williams & Cabe. George Williams of the firm, recently appointed by the governor of Missouri to fill out the unexpired term in the senate of Senator Spencer, is directly in charge of the case.

Mr. Laessig is one of the pioneers of the gasoline business in the country and was one of the first to see the possibilities of the drive in service station station and to develop this method of retailing motor fuel.

House Committee May Follow Idea of Treasury on Depletion

Staff Special

WASHINGTON, Dec. 2

MEN who have given the matter their close attention believe that when the House of Representatives ways and means committee reports the tax law revision measure it will contain a new rule respecting discovery depletion to the effect that a discovery well shall prove 160 acres, thus eliminating the possibility of discovery depletion benefits for other discoveries within that area. Such a rule would be substantially the recommendation of the treasury officials who object to depletion benefits inuring to the credit of discoveries within what is generally regarded as a proved area. Under the law as it now stands such benefits now inure.

The treasury view of the matter was placed before the committee by A. W. Gregg, solicitor for the Commissioner of Internal Revenue. In discussing the subject he said:

"Depletion is based upon the value of the property at the date of discovery, in the case of oil wells, mines and so forth. We discussed that in 1922. Since then the department (treasury) has looked into several things which we think should be called to the attention of the committee. The discovery provision was first put into the statute to encourage the development of the natural resources of the country, primarily during the war, in 1918 for the first time. Under that provision, the discoverer, or the tax-payer who discovers an oil well, for example, can set up as the basis of depletion, the value of the well at the date of discovery and in making his deduction against the income from the operation of the oil well, the deduction is based against the income from the operation of the oil well; the deduction is based upon the value at the date of discovery. I will give the history of that law: The deduction was unlimited under the 1918 act and under the 1921 act it was limited to 100 per cent of the profits of the property upon which discovery was made. Under the act of 1924, you cut that to one half and made it 50 per cent of the income from the property upon which discovery was made. That it would seem, took care of the limitation of the deduction in the cases where the discovery value is properly given but there are cases under the existing law where the tax payer who is not really entitled to the discovery provision can get it.

"Here is the proposition: Under the existing law, a tax payer who brings in a well on property which was proven territory at the time he drilled his well is entitled to discovery value for depletion purposes, even though the property was proven at the time he drilled the well, provided he purchased the property before it was proven. The argument for the discovery provision, as it was intended to encourage the development of natural resources, has no application to cases where at the time the man drills he knows it is proven territory."

Davis Answers Argument

Answering the observations of the solicitor W. N. Davis, president of the Mid-Continent Oil and Gas Association said that apparently the critics of the so-called discovery depletion section was based entirely on the assumption that the allowance was given in the first instance only as a sort of subsidy or bonus to encourage the wild-catter, to stimulate activity and the discovery of oil which was badly needed for war purposes. But he said there was an economic reason for the allowance in addition to the one outlined.

That economic reason, he said, was found in the character of oil production. He said that an oil well was no sooner completed than it began a rapid decline. The same, he said, was true of oil pools and of total production of the United States. Also Mr. Davis said maintenance of the necessary production of oil was secured by drilling every year a vast number of wells. The following statement, he added was justified by the closely uniform experience of past years: The sums of money which were involved had been greatly increased by the ever increasing depth to which it was necessary to drill.

Mr. Davis said that the record for 1925 would show, drilled in the United States, to maintain production, some 25,000 wells at a cost from $800,000,000 to perhaps more than $1,000,000,000. And of that number, he said, between 25 and 30 per cent would be dry holes. Another five to ten per cent, he added, would be so small as to be almost equivalent to dry holes, and another one third of the whole number would have initial production of the less than 25 barrels per day to the well. A large proportion he said would not return the investment, with interest during their life time. Thus the profits from the producing branch, he said, had to come from about one third of the wells drilled.

How To Go Broke

Obviously said Mr. Davis, the oil producer, whether an individual or a corporation, had to set aside, from the income derived from profitable wells, a reserve, for replacement of the oil produced in an amount adequate to cover all the contingencies of the hazardous and uncertain business. It would not be sufficient, he said, when producing cheap oil from a rich and prolific property to set aside for replacement no more than the cost of that oil. Such procedure, followed by the distribution in dividends of the remainder of the income would lead to bankruptcy or rapid liquidation of the business.

It might be reasonably assumed, said Mr. Davis, that the cost of replacement would approximate the average cost of the discovery and development of the like amount of oil in the ground, and a producing company, failing to make the necessary discoveries, was frequently forced in order to maintain its production, to purchase properties discovered by others. A replacement or depletion reserve, had to be adequate to meet that contingency and it was upon that ground, he asserted, that in 1918 Congress authorized the discovery value of a property to be the base for depletion deductions.

"Congress" he said, "should allow oil producers, in computing taxable income the same deductions for replacement or depletion reserves that the hazard and irregularities of the business forced them to make in the sound conduct of their affairs. They should not be required to pay taxes on income that is only apparent and which, in the maintenance of a continuing business must be set aside to replace the oil then being produced."

Jobbers Meet in New Club

INDIANAPOLIS, Nov. 30.—The annual meeting of the Indiana Independent Petroleum Marketers' Association, which is scheduled for Dec. 9, at Indianapolis, will be held in the ball room of the new Columbia Club, prominently located on the Circle, according to W. H. Trimble, president.

A reception committee will await the ladies who will attend the meeting on the mezzanine floor.

Ladies are invited to the luncheon, they will be entertained in the afternoon by a theater party, and the banquet in the evening.

Buys Texas Production

DE LEON, TEX., Dec. 1.—Edward R. Wilson recently purchased the half interest of his associate, C. O. Moore, of Cross Plains, in 1500 acres of leases in the producing district of the Cross Cut field in Brown county, Tex. The consideration for the half interest was $250,000.

The property has 18 wells with daily average of 550 barrels. The average depth is about 1400 feet. Both Messrs. Wilson and Moore are independent operators and both will continue to carry on development work.

CLEVELAND, Nov. 30. — L. A. Greene, head of the Radio Petroleum Co., Fort Worth, was in Cleveland on his return to Fort Worth after a trip through the east, upon which he embarked after the Louisville, Ky., jobbers' meeting. He spent Thanksgiving with his parents at Binghamton, N. Y. He finds the jobbing trade optimistic over business prospects for 1926.

Show Why Writ Against Work Should Issue

WASHINGTON, Dec. 2.—Additional considerations why the Supreme Court of the District of Columbia should forbid the Secretary of the Interior to hold a hearing on the title by which the Standard Oil Co. (California) holds Section 36 in the Elk Hills district have been submitted by Oscar Sutro and McKenney & Flannery, attorneys for the company. They offered them in answer to Justice McCoy's determination to deny the temporary injunction.

Noting that the justice had said that his "court was without jurisdiction to determine whether or not the lands in question were known to be mineral on January 26, 1903" they point out that whether the land in 1903 was known mineral land or not was a question of law and fact. They pointed out that in 1904 the department found that it was not mineral land. They said the chief of field division and the first assistant Secretary of the Interior so advised the secretary in 1921. They added that the pleadings before the court so stated. Therefore they assert, the court should find, as a matter of law, that the land was non-mineral at the date of the approval of the survey as it was determined to be by the department in 1904 and by the Secretary of the Interior in 1921.

"No other finding could have been made by the Secretary of the Interior in 1921" they said "or should be made by the court now." The effect of a contrary view, they said, would be to permit the department of the interior now to try the question whether the land was known mineral or not at the date of the survey despite the fact that theretofore the department had admittedly found the probative fact from which "as a matter of law" it resulted that the land was non-mineral and that the grant to the state attached.

There would have been no purpose in the Secretary of the Interior ordering a hearing in 1921 on an issue the determination of which was concluded by an undisputed fact, to wit the absence of exposed mineral.

"He was justified in accepting the finding of his own office on that subject made in 1904" said the argument against the denial of the temporary injunction.

"Satisfied of the existence of that fact, he properly dismissed a contest which could only subject the parties to an unwarranted burden and interference with the full enjoyment of their property. So this court of equity, we submit, should not permit the Secretary of the Interior to plunge these parties into an investigation of their title and the trial of an involved issue years after the ascertainment of the basic fact upon which the state's title rests. If the allegation that there was no mineral exposed on the land in 1903 were disputed by the government an issue of fact would be raised which this court might or might not have jurisdiction to try. But on the admission of that fact now, as it always has been admitted, the legal conclusion that the title vested in the state inevitably follows and this court, if it goes behind the order of the Secretary of the Interior, made in 1921, is bound to apply the law to that fact and to determine that question. No other conclusion is possible than that the title was settled in the state when the department found, as it still admits, that the land did not possess the attributes of known mineral land as defined in these cases" (titles of which were cited).

This is a case that was begun by the California Standard with a view to preventing the land office at Visalia, Calif. beginning the hearing on the title question in accordance with a resolution of the Senate adopted at the time that body was having its delirium about the so-called Teapot Dome scandal. The Interior Department admitted, in court that the resolution of the Senate gave it no more authority than it had had under the statute on the books before the Teapot matter came into being.

Riverland Co. Sells to McCulloch

TULSA, Nov. 28.—J. W. McCulloch, formerly vice-president and general manager of the Independent Oil & Gas Co., and now an independent operator, has purchased for a consideration of about $750,000, the principal producing properties of the Riverland Co. The deal includes 740 acres with daily net production of 1,000 barrels. It includes a 50 per cent interest in 320 acres in sections 16 and 21-21-10, Osage county, a three-quarter interest in 80 acres in 8-16-12, Mounds pool, and a 100 per cent interest in 320 acres in sections 27 and 35-19-11, known as the Riverland pool. The Riverland Co., which originally was formed by several geologists, has followed a policy of developing properties and then selling them. The deal with Mr. McCulloch is the third major sale by the Riverland Co. since 1923.

In addition to this newly-acquired production, McCulloch is interested in a number of drilling wells, among them two in section 27-9-9, in the new Fuhrman pool. One of these is being drilled in partnership with Foster Investment Co. and the other with the J. A. Hull Co. He is also drilling in 27-8-8 and in 12-7-9 and is interested with the Mid-Kansas Oil & Gas Co. in tests drilling in 31-12-6 and 17-12-7. He owns a half-interest in a wildcat well recently drilled in Lyons county, Kansas, which had initial production of around 500 barrels. Mr. McCulloch left the Independent Oil & Gas Co. last April, and has acquired all these interests and properties since that time.

California Output of Gasoline Increases

SAN FRANCISCO, Nov. 30.—The 51 California refineries reporting to the Bureau of Mines, during October produced 159,481,499 gallons of gasoline, an average of 5,144,564 gallons a day which was an increase over the production in September of 21,345,201 gallons, or 15.45 per cent, according to the report just put out by the bureau.

Of this amount, only 348,677 gallons were produced by cracking or synthetic processes. Stocks of gasoline were increased by 14,196,514 gallons during the month, standing on Oct. 31 at 395,541,484 gallons. The 51 plants reporting were operating during October at 83.94 per cent of their capacity, running a daily average of 558,065 barrels of oil. This is an increase over September of 4893 barrels a day.

The Bureau of Mines received reports from 146 natural gasoline plants out of 149 operating in California and these 146 reported the production of 28,065,256 gallons of natural gasoline from 21,644,903 thousand cubic feet of gas treated. Stocks of natural gasoline at the end of October amounted to 74,849 barrels of which 25,407 barrels were reported by gasoline plants and 49,442 barrels of refiners. The stocks at the end of October represented a decrease of 45,276 barrels from stocks at the end of September.

Kerosene production amounted to 23,983,518 gallons, a decrease of 323,960 gallons under September output. Stocks increased 5,774,621 gallons and at the end of the month amounted to 71,937,586 gallons.

Production of gas oil, fuel oil and residuum amounted to 510,766,808 gallons an increase of 16,730,169 gallons over September output. Stocks of heavy crude, including all grades of fuel oil increased 1,825,205 barrels and at the end of the month amounted to 81,484,776 barrels.

Production of lubricants during October was 7,580,909 gallons a decrease of 1,100,907 gallons under September output. Stocks increased 1,581,737 gallons to 36,802,056 gallons.

Stocks of refinable crude increased 1,020,387 barrels and at the end of the month amounted to 43,789,936 barrels.

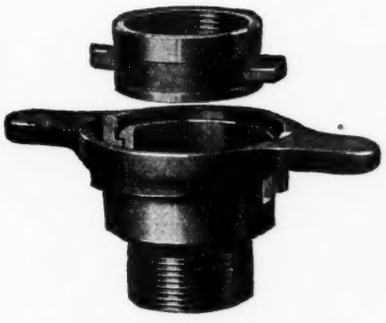
To Expand Marketing Facilities

OSWEGO, N. Y., Nov. 30.—The Nacey Oil Co., with headquarters here, franchise distributor of The Pure Oil Co., Columbus, O., reports meeting with success with Purol gasoline and Tiolene motor oil which are new products in this territory.

The company operates two service stations, and is making preparations to increase its distributing facilities in the spring.

William Nacey, the proprietor, is well known in this community. Previous to his entry into the oil business, he was postmaster of Oswego for 10 years, and previous to that, was proprietor of the Hotel Nacey for 15 years.

The New
Wheaton Quick Hose Coupling



Here the adapter is shown *out* of the coupling. In the larger illustration, the adapter is shown seated in the coupling, the correct position after the connection is made.

Attaching the delivery hose to the tank truck faucet in former days meant screwing the hose coupling onto the faucet. Not only did this require time but unless the operator was extremely careful the threads on the faucet and in the coupling were soon stripped. And damaging the threads by careless handling has always been a source of annoyance.

By the *new* Wheaton Quick Hose Coupling, all this is done away with. The adapter shown above the coupler at the left is put on the hose end of the faucet and left there. The coupling is attached to the hose and left *there*. With this equipment attached, the adapter is simply placed in the coupling: a part turn of the coupling makes the connection tight. A small fraction of a minute is all the time required for making this connection. Time is saved, and damage to faucets and couplings avoided.

The *new* Wheaton Quick Hose Coupling is a *money saver*. Already it has won its place as a necessity on delivery equipment. Many of the old Wheaton customers who for years have standardized on Wheaton faucets, have adopted this new Wheaton product. It is of Wheaton Quality in every sense. Order at least a sample at once. If it doesn't meet your expectations, return it for credit or refund. Do it today—now.

A. W. WHEATON BRASS WORKS, NEWARK, N. J.

Wheaton

Crude Production by Districts

Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute.

OKLAHOMA

	Nov. 28	Nov. 21
North Braman	1,800	1,900
South Braman	5,750	6,200
Blackwell	2,800	2,850
Hubbard	2,100	2,150
Thomas	16,700	16,600
Tonkawa	39,300	44,900
Garber	66,050	72,150
Burbank	48,300	48,400
Osage, outside Burbank	33,050	33,100
Watchorn	3,400	3,450
Cushing	22,900	22,900
Yale Jennings	12,550	11,250
Davenport	20,550	19,050
Bristow-Slick	31,000	31,100
North Okmulgee	18,200	18,150
Lyons-Deaner	4,550	4,500
Stroud	3,350	3,400
Cromwell	22,250	23,100
Papoose	14,000	13,450
Wewoka	8,850	8,900
Duncan district	7,900	7,950
Graham	9,200	9,200
Fox	4,550	4,400
Healdton	15,200	15,200
Hewitt	13,900	14,050
Others	61,450	61,050
Total Oklahoma	489,650	499,350
Decrease		9,700

* * *

KANSAS

Florence-Covert	1,950	1,950
Peabody-Elbing	4,950	4,950
Eldorado-Towanda	14,600	14,650
Augusta-Fox-Bush	5,400	5,450
Rainbow Bend	8,200	8,800
Russell	5,750	5,650
Others	64,800	64,600
Total Kansas	105,650	106,050
Decrease		400

NORTH LOUISIANA

	Nov. 28	Nov. 21
Homer	6,100	6,050
Haynesville	11,900	12,000
Caddo, light	8,600	8,850
Caddo, heavy	2,200	2,550
De Soto, Red River	3,950	4,000
Elm Grove	550	650
Bellevue	2,500	2,650
Cotton Valley	9,050	8,450
Total N. Louisiana	44,850	45,200
Decrease		350

* * *

ARKANSAS

	Nov. 28	Nov. 21
El Dorado	8,050	8,050
Smackover,light	21,600	21,450
Smackover, heavy	172,650	165,750
Stephens	1,700	1,700
Nevada	1,400	1,400
Total Arkansas	205,400	198,350
Increase		7,050

* * *

CALIFORNIA

	Nov. 28	Nov. 21
Santa Fe Springs	53,000	53,000
Long Beach	108,000	106,000
Huntington Beach	45,500	47,000
Torrance	32,000	32,000
Dominguez	26,000	26,500
Rosecrans	25,000	25,500
Inglewood	69,000	69,500
Midway-Sunset	99,500	99,500
Others	179,000	180,000
Total California	637,000	639,000
Decrease		2,000

NORTH TEXAS

	Nov. 28	Nov. 21
Burkburnett	12,650	12,550
Electra	15,900	14,250
Iowa Park and K-M-A	4,200	4,150
Wilbarger	13,650	14,400
Panhandle	2,800	3,300
Petrolia	400	400
Archer county	33,700	32,400
Total N. Texas	83,300	81,450
Increase		1,850

* * *

EAST CENTRAL TEXAS

	Nov. 28	Nov. 21
Mexia	15,300	15,150
Currie	1,150	1,200
Richland	2,300	2,400
Corsicana-Powell	36,600	36,800
Wortham	12,300	12,800
Total E. C. Texas	67,650	68,350
Decrease		700

* * *

WEST CENTRAL TEXAS

	Nov. 28	Nov. 21
Stephens county	13,800	13,950
Eastland county	8,900	6,850
Desdemona	2,200	2,250
Young county	8,250	7,950
Palo Pinto county	550	550
Callahan county	3,450	3,500
Shackelford county	2,450	2,500
Reagan county	31,200	30,800
Others	5,050	5,200
Total W. C. Texas	73,850	73,550
Increase		300

* * *

SOUTHWEST TEXAS

	Nov. 28	Nov. 21
Luling	21,900	22,100
Mirando	6,400	6,500
Somerset	2,150	2,150
Lytton Springs	8,200	8,600
Others	850	900
Total S'west Texas	39,500	40,250
Decrease		750

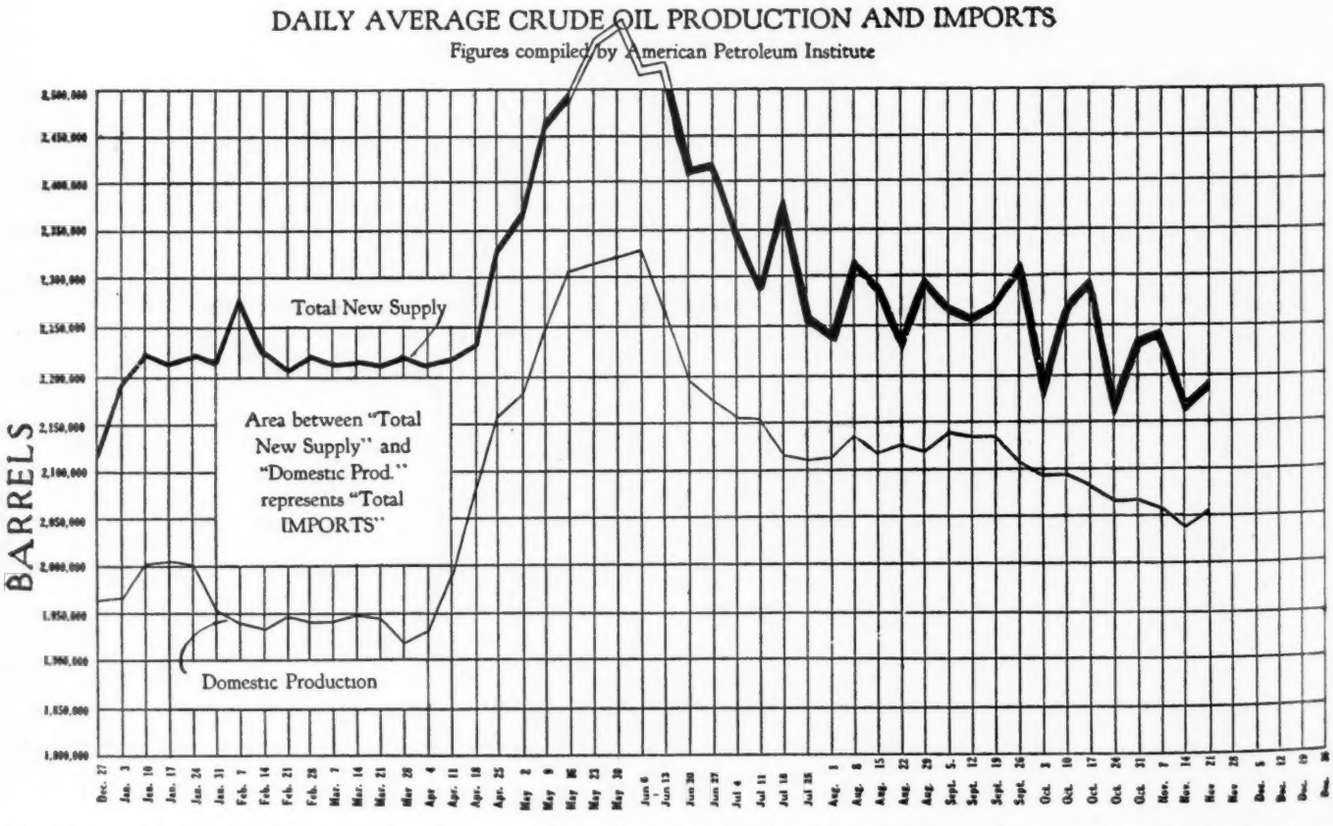
* * *

GULF COAST

	Nov. 28	Nov. 21
Goose Creek	8,600	10,600
Hull	14,300	13,950

DAILY AVERAGE CRUDE OIL PRODUCTION AND IMPORTS

Figures compiled by American Petroleum Institute


BARRELS
Total New Supply
Area between "Total New Supply" and "Domestic Prod." represents "Total IMPORTS"
Domestic Production

This chart is based on official complete figures of A. P. I. and is a week later than the production estimates given in tabular form above.

Saratoga	1,100	1,100
Blue Ridge	400	450
Damon Mound	1,050	1,050
Batson	1,050	1,050
West Columbia	9,600	9,650
Humble	4,750	4,600
Pierce Junction	700	450
Sour Lake	3,650	3,650
Spindletop	1,150	1,200
Orange county	15,650	13,050
Edgerly	500	500
Evangeline	800	900
Vinton	6,400	6,500
Lockport	4,200	4,250
South Liberty	10,200	9,950
Big Creek	950	1,000
Others	700	750
Total Gulf Coast	85,750	84,650
Increase		1,100

* * *

ROCKY MOUNTAIN

Wyoming

	Nov. 28	Nov. 21
Salt Creek	58,900	64,250
Grass Creek	2,850	2,750
Elk Basin	700	750
Big Muddy	3,300	3,300
Lost Soldier	4,400	3,950
Rock River	3,400	3,150
Teapot Dome	1,250	1,700
Others	4,050	3,050
Total Wyoming	78,850	82,900
Decrease		4,050

* * *

Montana

Cat Creek	3,300	3,300
Sunburst	15,450	12,650
Total Montana	18,750	15,950
Increase		2,800

Colorado

Moffat (Craig)	2,650	2,800
Fort Collins	1,500	1,850
Florence	400	300
Others	300	250
Total Colorado	4,850	5,200
Decrease		350

New Mexico

Artesia	4,400	4,700
Hogback	550	550
Rattlesnake	250	350
Total New Mexico	5,200	5,600
Decrease		400
Total Rocky Mountain	107,650	109,650
Decrease		2,000

* * *

EASTERN

	Nov. 28	Nov. 21
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	105,000	106,000
Decrease		1,000

* * *

Production Summary

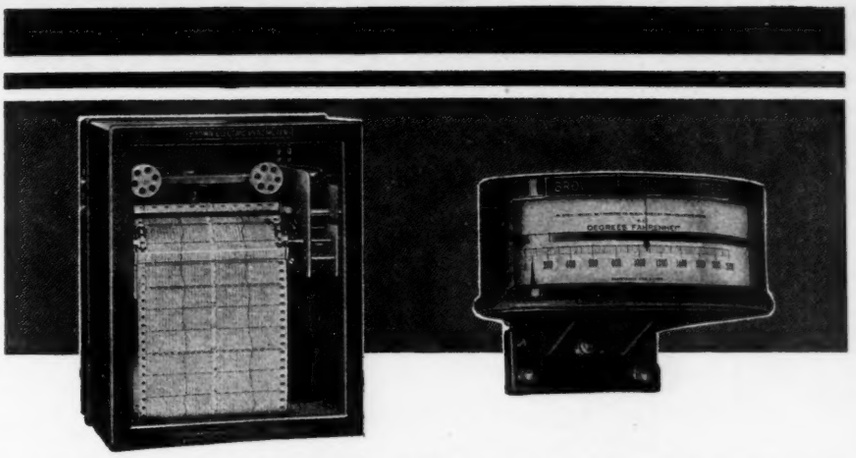
	Nov. 28	Nov. 21
Production east of Rockies	1,408,250	1,412,850
Decrease		4,600
Total Production in U. S.	2,045,250	2,051,850
Decrease		6,600

Crude Price Changes

Nov. 30.—Joseph Seep Purchasing Agency advanced Ragland crude 5 cents per barrel, making new price $1.15. Last previous change was an advance of 10 cents on Nov. 23.

Late Tank Wagon Change

NEW YORK, Dec. 1.—Standard Oil Co. of New York advanced tank wagon and service station prices of gasoline 1 cent at Albany, to 17 cents and 19 cents respectively.



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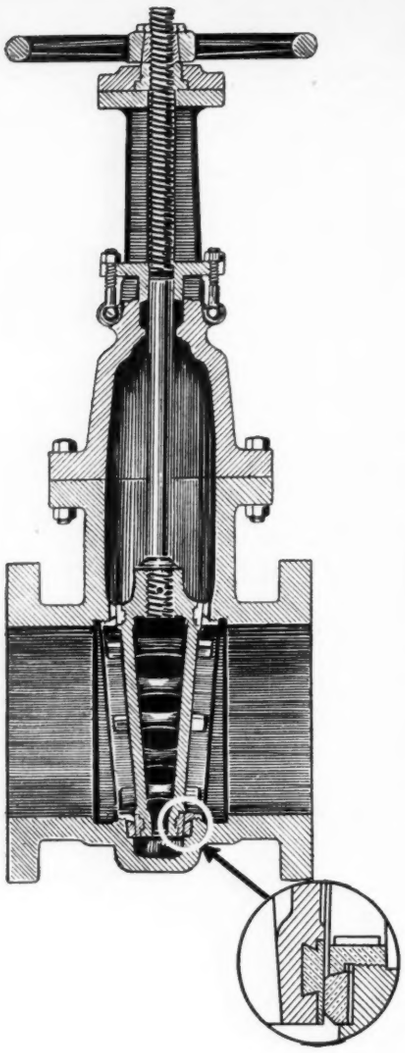

Retaining ring renewable seat construction *means reduced upkeep*

Note the construction of the retaining ring, seat ring and seat ring gasket—indicated by the circle in the cross section view.

Should the seat ring become scored, a new one can be inserted by simply removing the bonnet and unscrewing the retaining ring. The wedge, too, is renewable. Compare the cost of such renewals with the replacement of a complete valve!

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Garber Drops Almost As Fast As It Went Up; Water Responsible

By A. F. Hinton
N. P. N. Staff Writer

ONCE again we must present Garber as the principal point of interest in Mid-Continent field developments, but this time the interest is in reverse. Last week, we had to chronicle a sensational rise in production which left us wondering how far upward it would go, but the field reached the crest of the wave at just about the time we were getting out last week's article, and since that time has been going down almost as fast as it went up.

Today, there are 36 deep wells at Garber making only about 1000 barrels more per day than 26 wells were making two weeks ago, with the big spurt that carried the field's output up 22,000 barrels in a week's time, sandwiched in between. In other words, the field made a big gain but failed to consolidate its position and was forced to fall back almost to its original location. Water encroachment has been the principal factor in the most recent decline, has hastened the falling-off of some wells, and has killed others altogether.

Garber's daily average production for the past week was 65,990 barrels, which is almost 10,000 barrels more than its actual output for the past 24 hours. Inasmuch as most of the decline occurred during the last three days of the week, the loss in daily average does not indicate how precipitate the decline really was, as the field averaged 72,100 barrels the preceding week. However, the past week opened with the deep wells producing about 71,500 barrels, and when it ended the same wells were down to 56,050 barrels, or a loss of 15,450 barrels. On Nov. 14, or two weeks ago today, the deep wells made 55,470 barrels.

Although the Sinclair-Hartley well is still going strong, continuing to produce more than 15,000 barrels of clean oil daily most of the other big wells are making water in varying amounts and are declining with varying rapidity. Apparently it will take more wells of the Hartley variety to put the field back where it was before the most recent decline set in. Its future course probably will be marked by violent fluctuations similar to that of the past week, but the growing number of wells will make it increasingly difficult to boost the production in the face of rapid declines by the older wells.

One of the heaviest losers in last week's decline was the School Land Lease of Marland and Mid-Continent Petroleum Corp., located in the SE of 13-22-4W. This lease was making 19,739 barrels two weeks ago, from eight wells, but at last available reports, was down to around 6800 barrels of oil and 2000 barrels of water daily. This company's No. 45, which was one of the best wells in the field and was making 7000 barrels of oil daily two weeks ago, is now producing 900 barrels; No. 53, also a 7000-barrel well originally, is down to 650 barrels. Their No. 54 also has gone down considerably, although at a lesser rate than the others. It was making 1150 barrels yesterday, as against 4500 barrels Nov. 14. The newest well on this lease is No. 58, in the NWc NE SE of 13, two locations west and one south of the Sinclair No. 19 Hartley. This well is not showing very good, as it made only 300 barrels the first 24 hours and was flowing at the rate of 480 barrels at last reports. It topped the lime at 4281 feet, had gas at 4200, had a show of oil at 4305, oil pay at 4320 and total depth of 4328 feet.

The Roxana Petroleum Corp. has drilled in several new wells, but also has been unable to stem the tide of decline which has beset the field. Last week this company had 37,565 barrels daily production, which is now down to 27,100 barrels. Two weeks ago it had five wells making 25,346 barrels. It now has 10 wells, the five additional wells having added only 1800 barrels to the total output after the decline set in.

No. 1 Schroeder Dies

One of the interesting features of the week's developments on this lease was the passing of No. 1-W Schroeder, which was the discovery deep sand well on the property and which had initial production of 6528 barrels in sand from 4300 to 4319 feet. This well, which is located in the SWc of 18-22-3W, a diagonal northeast offset to the Sinclair-Belveal discovery well, has gone dead after producing more than 600,000 barrels of crude. This company's No. 8-W on the same farm, in the NEc NW SW of 18, mentioned last week as flowing 150 barrels an hour, is now making around 4800 barrels daily, after having been drilled to 4330 feet. It topped the sand at 4303 feet, with first oil at 4325 feet, and made 3360 barrels the first 24 hours at depth of 4330 feet. Subsequent deepening and agitation have increased its flow.

Roxana's No. 4-W Schroeder, in the SWc NW SW of 18, which was producing 3280 barrels last week at total depth of 4294 feet, is now making 856 barrels of oil and 1000 barrels of water. Its No. 6-W Schroeder, in the NEc SW SW of 18, which was reported last week as making 8386 barrels the first 24 hours, is holding up well and is making around 8600 barrels at present. Record of this well was top of lime 4255 feet, oil at 4260, an increase at 4276, and total depth 4298 feet.

Sinclair No. 19 Hartley, in the SWc NW of 18, made 15,220 barrels the past 24 hours, and has not started making any water, as far as is known. The company has several wells nearing interesting depth on this lease, which appears to be good for some very large production. Its No. 20, in the NWc SW NW of 18, a location north of the big well, is drilling at 3835 feet, and is reported to be running higher on structure than No. 19. The same company's No. 21, a location east of No. 19, is standardizing at 3735 feet. Sinclair's

Drilling Operations in Oklahoma, Kansas and N. Texas

	Nov. 28 — Week Ending — Nov. 21									
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	1	2	9	2	14	1	4	8	1	14
Other Osage	3	13	38	13	67	3	11	38	10	62
Bristow-Cushing	27	35	150	26	238	23	37	147	24	231
North Oklahoma	10	26	140	109	285	10	33	139	107	289
South Oklahoma	10	19	147	50	226	10	22	146	63	241
Muskogee	...	8	56	14	78	...	12	50	13	75
Okmulgee-Bristow	1	47	121	44	213	2	48	132	37	219
Tonkawa	...	2	10	2	14	...	2	11	2	15
Wewoka-Cromwell	10	15	94	13	133	15	10	88	18	131
Total Oklahoma	62	167	765	274	1268	64	179	759	275	1277
KANSAS	52	94	205	133	484	58	75	215	141	489
NORTH TEXAS										
Eastland County	...	1	53	3	57	...	3	58	3	64
Stephens County	...	15	36	15	66	...	18	34	14	66
Texas Panhandle	...	23	30	14	67	...	19	28	14	61
Mexia District	...	3	8	10	21	...	4	12	8	24
E. Texas Wildcats	...	...	4	9	13	...	7	6	23	36
W. Texas Wildcats	...	20	146	70	236	...	21	137	71	229
Wichita Falls	...	59	145	29	233	...	52	141	29	222
Total N. Texas	...	121	422	150	693	...	124	416	162	702
GRAND TOTAL	114	382	1392	557	2445	122	378	1390	578	2468

Completions in Oklahoma and Kansas, Week Ended Nov. 28

OKLAHOMA

Caddo County

Company	Well	Location	Depth	Initial Production
Crane-Smith	1	NEc NW NE 8-8-11	T.D.4292	Dry

Carter County

Company	Well	Location	Depth	Initial Production
Magnolia	1	C SW SW NE 19-1-3W	2987–3201	15

Comanche County

Company	Well	Location	Depth	Initial Production
Magnolia	2	C SE SW NE 30-2-9W	2053–2055	50
Becker et al	2	C SE SE NW 3-3-10W	T.D.1170	Dry

Creek County

Company	Well	Location	Depth	Initial Production
Okla. Nat	1	SEc NW 6-15-7	3595–3641 OWD	16M
Caskey et al	1	NEc SW NE 6-18-12	1700–1710 OWD	1½M
Kennedy et al	2	SWc NE NE NW 6-18-12	2046–2086	100
Tex-Pac	3	SEc SW NE 21-17-9E	2502–2544	20
Roland	1	CWL SW NW 30-17-9	3448–3465	17
Kiyoche	6	NEc SE SW 36-17-9	1137–1167	25
Tidal	2	NEc SE NW 19-17-10	611– 627	5
Tibbens	1	SWc SE 31-15-9	1220–1285	2½M
Gladys Belle	2	NEc SW SW 17-14-10	3395–3430	250
Atlantic	1	SWc 36-18-8	T.D.3425	Dry
Wright	6	SEc NE SW 24-17-10	T.D.3300	Dry
Beal-Carey	1	SWc SE NW 14-16-11	T.D.2397	Dry

Garfield County—Garber

Company	Well	Location	Depth	Initial Production
Cosden-Marland	53	C SE NE SE 13-22-4W	4270–4291	7431
Cosden-Marland	54	C NE NE SE 13-22-4	4295–4319	4392
Sinclair	23	C SE NE 13-22-4	4252–4305	4652
Sinclair	25	C SE SW NE 13-22-4	4390–4409	200
Sinclair	27	C SE NE NE 24-22-4	4304–4373	3000
Sinclair	19	C SW SW NW 18-22-3	4218–4323	15,766

Grady County

Company	Well	Location	Depth	Initial Production
Magnolia	2	CEL NW SE 23-5-8W	1257–1310	4M
Carter	5	SWc NW 26-5-8W	2315–2350	8¾M
Magnolia	4	C SW NE 35-5-8W	1306–1416	8M
Briscoe-Hall	3	SEc NE NW NW 25-5-8W	T.D.1452	Dry
Melton	1	SWc NE 35-3-5W	T.D.1565	Dry

Hughes County

Company	Well	Location	Depth	Initial Production
Douglas	1	C SW SW SE 14-9-9E	3283–3305	29M
Phillips-Robinson	2	C NW SW NW 17-8-10E	2690–2732	20M
Independent	4	C SE NE SE 18-8-10E	2692–2750	15M
Mathers-Skelly	1	C SW SW 4-5-11E	T.D.3206	Dry
Tidal Osage	4	C NW SW NW 3-9-11E	T.D.2957	Dry

Kay County—Thomas

Company	Well	Location	Depth	Initial Production
Marland	1	C SE SE SW 16-25-2W	4232–4281	88
Carter	1	C SW SE SW 15-25-2W	T.D.4345	Dry

Kay County—Tonkawa

Company	Well	Location	Depth	Initial Production
Comar	1	SWc SE 35-25-1W	4127–4134	17

Kiowa County

Company	Well	Location	Depth	Initial Production
Conner et al	1	SEc SW 20-7-16W	T.D.1200	Dry

Lincoln County—Davenport

Company	Well	Location	Depth	Initial Production
Galvez	1	NWc SE 2-14-5	3279–3359	1140
Skelly	1	NWc SW NE 2-14-5	3283–3365	540
Magnolia	2	NEc NW NE 3-14-5	3410–3476	120
Magnolia	4	SEc SW SE 34-15-5	3204–3456	250

Lincoln County

Company	Well	Location	Depth	Initial Production
Wilcox	2	NEc SW SW 15-14-6	2977–2985	10
Mid-Cont	1	SWc SW SW 13-15-6	T.D.4203	Dry

Muskogee County

Company	Well	Location	Depth	Initial Production
Black Jack	1	CEL NE SE 9-15-17E	T.D.1460	Dry

Okfuskee County

Company	Well	Location	Depth	Initial Production
Independent	2	SEc SW SW 33-12-11E	3688–3713	25
Riverland	1	SEc SW SW 19-11-11E	2081–2216	50
Savoy	1	C NE SE SE 21-11-11E	T.D.3030	Dry

Okmulgee County

Company	Well	Location	Depth	Initial Production
Tiger Mtn. et al	1	SEc NE NW 35-14-11E	2316–2340	15
Eagle Picher et al	2	NEc SE SE 32-13-12	2295–2303	16M
Sommerville	1	SEc NW SW 25-13-14E	715– 900	2M
Devonian	5	C SE SW 7-15-13E	2669–2673	275
Devonian	9	SEc SW SE 7-15-13E	2653–2660	480
Page Bros	4	C SW NE 14-15-12E	T.D.2984	Dry
Detrick et al	1	NWc NE 7-13-11E	T.D.3288	Dry

Osage County

Company	Well	Location	Depth	Initial Production
I. T. I. O	1	NWc NE NE SE 15-29-10E	1084–1115	50
Owen Osage	353	SEc 28-28-11E	T.D.1778	½M
I. T. I. O	336	CSL N½ N½ SE 27-25-11	1730–1740	2¾M
Tidal Osage	12	SEc NE NW 25-24-8	2132–2171	48
Peters	6	CNL S½ N½ NW 32-24-9	1791–1803	10
Tselos et al	1	SWc SE 1-24-11	1723–1768	10
I. T. I. O	7	NEc SW NE NW 1-21-8	2362–2372	35
Mason-Carter	6	SWc SE NW NE 23-21-8	2165–2230	10
Okla. Natl	695	SWc NW NW SW 11-21-10	1881–1888	7¾M
Titus et al	3	SWc 15-21-12	1548–1575	20
Titus-Norris	1	NWc 22-21-12	1315–1360	45
Twin State	1	SWc SE 14-23-8E	–2620	Dry
Gypsy	1	SWc NE NE 14-21-10	T.D.2665	Dry

Pawnee County

Company	Well	Location	Depth	Initial Production
Magnolia	2	SEc SW 9-20-6E	3060–3127	18

Payne County

Company	Well	Location	Depth	Initial Production
Josey	6	SEc SW SE 35-19-5	3373–3412	180
Skelly	1	NEc SE 6-17-4	3685–3743	18M

Seminole County

Company	Well	Location	Depth	Initial Production
Magnolia	1	C SW NW NE 28-8-7E	3210–3237	18
Magnolia	3	C SW SW SW 32-8-8E	3135–3178	5

Stephens County

Company	Well	Location	Depth	Initial Production
Douthitt et al	2	NEc SW 23-1-9W	1320–1350	4M
Ka Wye	1	SEc NW SW 25-1-9W	2063–2067	60
Eagle Creek	2	NWc NE SE NE 26-1-9W	2153–2156 OWD	2M
Carter	3	CEL NE NW 5-2-8W	2227–2233 OWD	5
Commercial	4	SWc 12-2-8W	1728–1733	140
Magnolia	1	SEc NE 3-2-5W	2053–2085	3
Hamon et al	6	NEc NW NW SE 33-1-8W	T.D.2442 OWD	Dry
Muse-Pace	1	CSL NE NE 10-2-8W	T.D.2250	Dry
Magnolia	1	SEc 11-2-8W	T.D.2200	Dry
Commercial	3	SEc SW SW SW 12-2-8W	T.D.1830	Dry

Tulsa County

Company	Well	Location	Depth	Initial Production
Suppees et al	1	SWc SE 34-19-12E	1993–2011	4M
Posey Short	1	NWc 8-18-13	T.D.1958 OWD	Dry
Best	1	NWc SW NW 30-18-14	T.D.1632	Dry

KANSAS

Butler County

Company	Well	Location	Depth	Initial Production
Hayes et al	1	NWc NE 4-24-8E	T.D.2757	Dry
Liggett et al	1	SWc NE 36-27-6E	T.D.2830	Dry
Flack et al	1	SWc SE NW 23-27-7E	T.D.2884	Dry
Federal	3	NEc NW SW 29-26-8E	2747–2792	75
Lewis	2	SEc NE 18-27-7E	2595–2608	9M

Chautauqua County

Company	Well	Location	Depth	Initial Production
Ludowici-Celedon	6	CWL NE SE NE 34-34-12E	1265–1270	½M

Cowley County

Company	Well	Location	Depth	Initial Production
Southwestern	9	SEc NE NE 6-31-6E	2815–2880	20
Patterson-Crosby	1	NWc NE 16-30-5E	T.D.3434	Dry
Christy	1	SEc 24-30-6E	T.D.1830	Dry
Jully	13	NEc SE 24-32-4E	T.D.2420	Dry

Cowley County—Rainbow Bend

Company	Well	Location	Depth	Initial Production
W. Phillips-Marland	13	NEc SW NW 21-33-3E	3200–3208	477
W. Phillips-Marland	15	NEc NW NW 21-33-3	3191–3227	570
Forrester et al	1	NEc NW 4-33-7E	1940–1955	25

Greenwood County

Company	Well	Location	Depth	Initial Production
Sinclair	28	NEc SW NW 20-22-10E	2288–2352	50
Phillips	2	SWc NW NE 30-22-11E	3034–3084	175
Phillips	6	NWc NE NW SW 33-22-11E	1890–1944	45
Phillips	3	NEc NW SE SW 33-22-11E	1890–1925	75
Greenland	17	SWc SE NE 10-23-9E	2337–2393	250
Greenland	18	NWc NE SE 10-23-9	2317–2365	150
Skelly	1	NWc NE NE 15-23-9	2330–2369	125
Mission	4	NEc SW SW 19-23-9	2581–2611	200
Mission	5	NWc SE SW 19-23-9E	2574–2608	160
Darby-Simmons	3	NEc SE SE SE 36-23-9	2331–2374	90
Pure	2	NWc NE SE 8-23-11E	1927–1975	45
Mission	1	SWc SE 23-24-9E	2096–2165	45
Mid-Kansas	3	NWc SE NE 19-25-9E	2396–2420	75
Skelly	3	NEc NW NW 13-22-10E	T.D.2205	Dry
Sinclair	1	NEc NW 36-23-8	T.D.3869	Dry
Simmons	2	SEc SW 9-23-11E	T.D.2085	Dry
Texas	1	NWc 5-24-10E	T.D.2369	Dry
Parrish et al	1	NEc 29-24-12E	T.D.1849	Dry
Flintridge	1	SEc NE SW 1-26-9E	T.D.2604	Dry

Russell County

Company	Well	Location	Depth	Initial Production
Carter	1	SEc NE 6-12-15W	T.D.1380	Dry
Cassoday	2	NEc NW NW 5-12-15	2813–2841	150
Mid West	1	NEc NW 8-12-15	2931–2933	450
Mid West	3	NWc NE NW 8-12-15	2919–2929	175

No. 26 N. Walker, in the NWc SW NE of 13-22-4W, is the deepest drilling well in the field, and probably the deepest in Oklahoma, as it was pounding ahead at 5325 feet at last reports. Another deep well on this lease is No. 27, in the SWc SE NE of 13, which is drilling at 4720 feet. Sinclair has come nearer holding its own in production than other operators in the field, as it now has 14 deep wells making 23,425 barrels daily, as compared with 24,531 barrels last week. Two weeks ago it had 12 wells making 10,319 barrels a day. All of the increase, of course, is attributable to the big Hartley well.

Another discovery of the Wilcox sand during the past week happened near the town of Preston, which has been in the heart of oil territory for many years past, and which, when known by its former name of Hamilton Switch, had quite a boom until wiped out by fire. This latest Wilcox strike was made by J. E. Abbott, W. R. Dillard, of Tulsa, and Carter Oil Co. in their No. 1 Warren, in the NWc of 12-14-12, Okmulgee county. This well got the top of the Wilcox at 2711 feet, and was showing for about 200 barrels of 39-gravity oil while drilling at 2719 feet. This is the first Wilcox well in the vicinity.

Skelly Oil Co. has a well flowing 35 barrels an hour in its No. 3 Rhoda Ford, in the SEc NE NE of 7-15-6, Lincoln county. This well made 825 barrels of 44-gravity oil in the past 24 hours, and is the third Hunton lime well to be completed in the pool, which appears to be exclusively a Skelly proposition. The new well had the lime at 4048 feet, with gas to 4051 feet, first oil at 4051, and started off at 45 barrels an hour at 4061 feet, making 917 barrels the first 24 hours.

The Skelly Oil Co. now has production of 1740 barrels from three wells in this pool. The discovery well, completed last June, is still making 725 barrels daily. It was on this lease that the Skelly gasoline department made its portable charcoal gasoline plant experiment, which attracted much attention and was highly successful. This plant is now making around 3700 gallons of gasoline daily.

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Completions in North and Central Texas, Week Ended Nov. 28

Archer County

Company	Well-Farm	Location-Survey	Depth	Initial Prod.
W. Phillips	3-Wilson	Howard	1700–1703	75
W. Phillips	6-Wilson	Howard	1718–1722	125
Sibley et al	12-Wilmot	S. P. 4	1382–1390	25
Perkins et al	7-Anderson	SAR 22	1417–1422	110
Magnolia	2-Portwood	TEL 1581	1384–1397	216
Tex-Prairie	2-Boren	Newman	1067–1081	40
Trahan et al	1-Findlay	Nail	T.D.1752	Dry
Pace-Hoosier	3-Miller	ATNC 21	T.D.1602	Dry
White Star	1-White	ATNC 42	T.D.1620	Dry
Gulf	1-Jackson	Aldridge	T.D.1501	Dry
Wichtex-Dixie	1-Jackson	Aldridge	T.D.1590	Dry
Jones	1-Brown	Sellers	T.D.1612	Dry
Consolidated et al	1-Tuberville	Carson 141	T.D.1500	Dry
Burns	1-Wisdom	Ostaine	T.D.1430	Dry
Lincoln	1-Rudd	Harris	T.D.1504	Dry
Marland-Humble	5-Richardson	Scott	T.D.1333	Dry

Brown County

Moore et al	8-Baxter	Miller	T.D.1290	Dry
Gilman-McMurray	7-Teston	Smith	1236–1252	25
Stone	4-Gunn	Smith	1191–1208	25
Keough	1-Angel	Garvin	2655–2682	5M

Callahan County

Canyon	2-Barr	Anderson	1417–1429	10
Gallagher-Lawson	1-Cent.	Anderson	1445–1448	200
Schaffner	1-Cent.	Anderson	1435–1447	30
Witherspoon et al	1-Cent.	Anderson	1443–1454	100
Jones et al	1-Mathis	Anderson	1445–1454	125
Kirk-Brewer	1-Cent. Ad.	Knight	1258–1264	600
Brannon-Murry	1-Cent.	Knight	1451–1459	670
Inland	1-Cent.		1427–1432	180
Mook et al	1-Steel	Knight	1427–1437	25
Mook et al	4-McDonough	Knight	1424–1433	50
Mook et al	1-Cent.	Knight	1425–1434	50
Holden et al	1-Adams	Millican	T.D.1600	Dry

Coleman County

Cranfill-Reynolds	1-Kirkpatrick	Wharton	T.D.1440	Dry
Trammill	1-Gray	Wharton 174	2544–2558	12

Crockett County

Humble	2-Powell	Sec. 2	2656–2682	25

Eastland County

Woods et al	1-Collins	H&TC 3	T.D. 881	Dry

Garza County

Gulf	1-Slaughter	Mays	T.D.4525	Dry
Armada	1-Boren	H&GN 136	2443–2453	30

Jack County

Humphreys	1-Campbell	Riley	T.D.2270	Dry

Limestone County

Eisenmayer et al	1-Rivers	Abbot	T.D.1781	Dry
Lewis-Hunter	1-Oliver	Dennison	T.D.3204	Dry

Montague County

Humphreys-Body	3-Jones	Donohoe	885– 905	3
Pure	1-Jones	Donohoe	1702–1780	25
Texhoma	5-Howard	Chambliss	T.D.2235	Dry

Navarro County

Company	Well-Farm	Location-Survey	Depth	Initial Prod.
Barclay-Meadows	5-Cerf	Smith	1600–2114	60
Navarro	8-T&BV	Harris	T.D.2200	Dry

Palo Pinto County

Upham	4-Edmonson	Bouren	1169–1180	¾M

Reagan County

Big Lake	30-Univ.	University 25	T.D.2972	1220
Big Lake	41-Univ.	University 1	T.D.2927	700
Big Lake	45-Univ.	University 1	T.D.2981	720
Big Lake	47-Univ.	University 25	T.D.2936	1900
Texon	26-Univ.	University 36	T.D.3000	480
Texon	28-Univ.	University 36	T.D.2974	1010

Shackleford County

Hayes et al	4-Leschber	TEL 545	444– 453	10

Sterling County

Chicago-Tex	1-Durham	WNW 173	1400–1427	6
Wrightsman	1-Foster	GC&SF 2	T.D.3002	Dry
Wrightsman et al	1-Hull	GS&SF	T.D.3501	Dry

Stephens County

States	1-Cooper	T&NO 5	T.D.3751	Dry
Phillips	1-Pace	TP 76	T.D.4110	Dry
Swensondale	19-Swenson	OAL 6	T.D.3300	Dry
Gulf	2-Satterwhite	TP 15	T.D.3480	Dry
Williamson et al	1-Maxwell	TP 6	T.D. 400	Dry
Prod. Union	1-Moon	TEL 2079	T.D.2200	Dry
Texas	3-Vick	TEL 3377	T.D.3434	Dry
Little et al	2-Drake	BAL 84	T.D.3650	Dry
Texiken	1-Couger	ABM 5	T.D.3529	Dry
Interstate	4-McLand	TP 11	T.D.3153	Dry
Swensondale	1-Elliott	OAL	3523–3563	¾M

Throckmorton County

Associated	1-Stacey	TEL 1614	4180–4236	50
Staley-Wynne	1-Cole	TEL 1626	T.D.1851	Dry

Wichita County

Hamon-Garrett	3-Waggoner	BS&F 11	1728–1740	55

Wilbarger County

Atlantic	2-Sigler	H&TC 51	2463-T.D.	90
Landreth	1-Waggoner	H&TC 43	1825–1869	350

Young County

Clark et al	2-Campbell	TEL 231	1001–1007	30
Texhoma	5-Campbell	TEL 1483	885– 899	305
Tidal	2-Campbell	TEL 1483	894– 916	240
Tidal	4-Campbell	TEL 1483	900– 927	35
Bashara et al	2-Morgan	TEL 3409	2839–2844	140
Seaboard	4-Simms	Abernathy	T.D.2700	Dry
Wellman et al	1-Robertson	TEL 406	–1305	Dry
Murchison-Fain	1-West	TEL 239	T.D.1050	Dry
Tex-Unity	1-West	TEL 239	T.D.1113	Dry
Texhoma	6-Campbell	TEL 1483	T.D. 970	Dry

Completions in North Louisiana and Arkansas, Week Ended Nov. 26

LOUISIANA

Cotton Valley—Webster Parish

Company	Well	Location	Depth	Yield
Humble O. & R. Co	Burrows No. 1	21–21–10	2575	50
Ohio Oil Co	Sandlin No. 2	27–21–10	2550	40

Claiborne Parish

Borden et al	A. W. Hays No. 1	36–19– 6	2505	s. w.

Claiborne Parish—Homer

Gulf Refining Co	George West No. 22	19–21– 7	1350	15

Bossier Parish—Bellevue

La. Oil Refg. Corp	Fee D-27	15–19–11	360	100

Elm Grove—Caddo Parish

R. O. Roy	Hutchinson No. 3	37–15–12	1945	15m. gas

La Salle Parish—Urania

Beckman et al	Urania No. 3	25–10–1E	1535	15

Winn Parish—Urania

Gould & Harper	Harper No. 2	33–1–1E	1516	30

Waskom—Harrison County

Company	Well	Location	Depth	Yield
R.R.Sutherland, trustee	A.J.Mitchell No.1	J.Lipscomb HRS	1940	5m. gas
Waterman Drlg. & Dev. Co	Hickman No.1	E. Pollack HRS	1943	15m. gas

Panola County—East Texas

J. C. McCormick	Griffin No.3	J. Shandoin HRS	1040	3m. gas

ARKANSAS

Smackover

Ohio Oil Co	Lewis No. 6	26–15–16	2080	50
Crawford & Sebastian	James No. 6	6–16–15	2405	junked
Hickman et al	Graves 9-A	3–16–15	2560	250
Humble O. & R. Co	Flenniken A-7	3–16–15	2380	200
Lion Oil Ref. Co	Hardy-Murphy No. 6	9–16–15	2395	40
Phillips Pet. Co	Giller No. 11	10–16–15	2004	25
Roxana Pet. Co	Flenniken C-4	8–16–15	2405	25
Southern Oil Pur. Co	Lyell No. 5	3–16–15	2550	40
Standard Oil Co. of La	Hardy-Murphy No. 28	9–16–15	2390	200
Standard Oil Co. of La	Goodwin B-9	5–16–15	2560	20m. gas spray of oil
Tidal Osage Oil Co	Vestal No. 6	17–16–15	2663	250
Unity Pet. Co	Roper No. 14	3–16–15	2630	40m. gas
Magnolia Pet. Co	Stout Lbr. Co. No. 4	1–16–17	2515	30

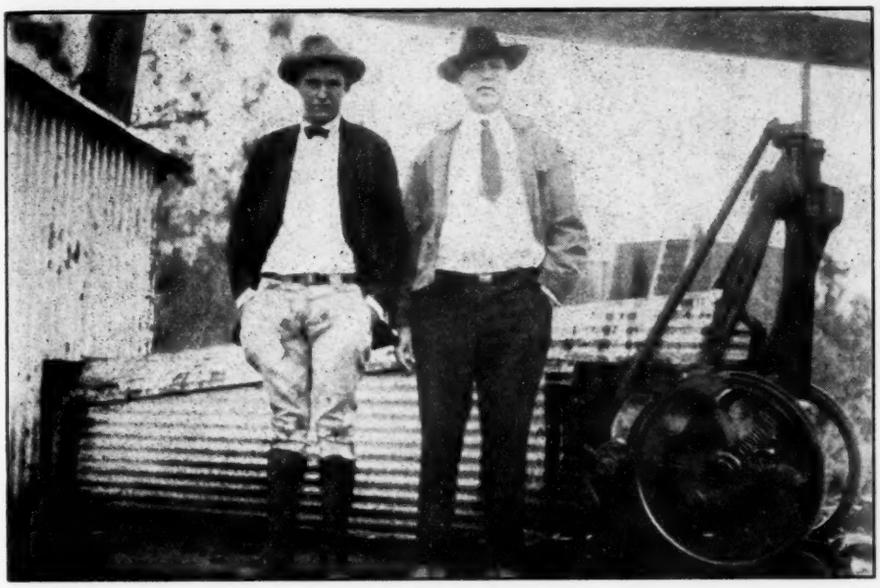
Bell Oil & Gas Gets Red River Lease

WASHINGTON, Nov. 30.—Lease on the one property which the government was operating for its own account has been awarded by the Secretary of the Interior to the Bell Oil & Gas Co., of Tulsa. Bids on the 122 acres, located in the south half of the Red River between Oklahoma and Texas, were advertised for some weeks ago. The Bell company's bid was $101,000 and royalty.

The tract consists of 122 acres and comprises part of the area found to be the property of the government in the recent award of claims by the Secretary of the Interior. It has 9 producing wells making about 155 barrels of oil and 80,000 cubic feet of wet gas daily. The Bell company operates a gasoline plant adjacent to the tract and had been buying the gas, in addition to gas from other wells in the riverbed.

The government is to receive royalty of 12½ per cent on that portion of each averaged well up to 10 barrels and 40 per cent on that portion above 10 barrels. If new wells are drilled, royalty of 12½ per cent is to be paid on up to 20 barrels inclusive, with the scale increasing 33⅓ per cent on the portion above 200 barrels daily per well. Royalty on natural gas-gasoline is to be 16⅔ per cent on the gross value and the royalty on dry gas sold is to be 16⅔ per cent of the net amount received by the lessee.

Shallow Oil Well Near Hondo, Texas, Holds Up



Hondo development promises to pick up as a result of the Tarver & Eastham well in this part of the San Antonio district, which continues to give up about 60 barrels of oil daily at the 930 ft. level.

Staff Special

HOUSTON, Nov. 30.—The 930-foot test of Tarver & Eastman, 10 miles south of Hondo, in Medina county, continues to excite interest in the San Antonio district, where it is heralded as the forerunner of important shallow production. The well, mapped as No. 1 Viola Wilson, is still producing about 60 barrels of oil daily.

A small oil well drilled by the Ina Oil Co., on an adjoining 50 acre tract, has been taken over by the Gibson Oil Co., through J. E. Walsh, and they will be associated in development work planned for this lease.

The accompanying picture shows Jack Tarver, one of the principals in the Tarver & Eastham partnership. The man at the right of the picture is a restaurant keeper named Stiegler of Hondo. The galvanized iron arrangement shown in the picture is used to protect the belt driven power on the well, which is operated with 6 horsepower gas engine. The gas used is produced at the well.

Partnership Is Held to Be Corporation

Staff Special

WASHINGTON, Nov. 30. — An unincorporated, joint stock association, organized under the laws of Texas, for federal income and excess profits taxation purposes is a corporation and not a partnership. Therefore the Burk-Waggoner Oil Association must stand for the assessment of $561,279 income and profits taxes in connection with the sale of an oil well, under the law of 1918. The Supreme Court of the United States, in an opinion written by Justice Sutherland said that while an association such as the one at the court's bar in this case was technically a partnership, it is not in common language or in fact regarded as a partnership but a corporation and therefore must pay the taxes collected from corporations differing from those assessed on partnerships.

In another case decided by the same court on the same day the Gulf Refining Co. won its contention that it was entitled to offset what it cost to develop land which was afterward adjudged as belonging to the United States, in Louisiana, before January 1, 1918, against what it received from sale of oil found on the property after that day. The government, and the circuit court of appeals took the view that because, after January 1, 1918 the Gulf company definitely knew that, so far as the lower courts were concerned the land belonged to the United States, it was not entitled to claim revenue from the oil found after that day as offsetting the cost of bringing in production.

Justice Brandeis, author of the court's opinion said that January 1, 1918 was merely an arbitrary accounting date fixed by the order of the court, which meant nothing as to the merits. Because the company lost money in bringing in that production the court holds it owes the United States nothing, even if it did enter upon and develop lands that belonged to the government. Under the ruling of the income tax officals and the circuit court, the company would have had to account to the government for "profits" for no reason other than that January 1, 1918, was an accounting date fixed by the courts.

"CUT OIL"

is a problem in CHEMISTRY

An "emulsion" represents a condition of a liquid which can be fully, scientifically and economically corrected by use of the chemical process. Use TRET-O-LITE process when you have cut oil and tank bottoms that require treating.

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It affects both production and refining reaching through the marketer to the ultimate consumer

It is changing the basis of long established relative values of light and heavy crudes

Light crude oil is no longer a yard stick for measuring the available supply of gasoline Low grade crudes and fuel oils

will hereafter be the largest resources for this purpose

It is changing the forecasts of requirements of crude to meet increasing gasoline demands

The main factor causing this revolutionary change is cracking, and the main factor in cracking is the Dubbs Cracking Process

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

We See By The Papers—

Conscious and unconscious humor concerning the oil industry from the press of the nation.

National Petroleum News

Climate Makes Things Look Bigger

Optical delusion, probably induced by remarkably clear atmosphere on the Pacific Coast, affects the New York Journal of Commerce correspondent, and the American Petroleum Institute Bulletin catches the fever.

A huge steel fuel oil storage tank as high as a three-story building and covering an area equal to a half city block is rapidly nearing completion at Longview, Wash. The capacity of the monster Standard Oil Co. tank, the largest in the Northwest and equal to any in the entire country, will be 88,000 barrels.

Season to Taste

Oil shales can either be run through a wringer or made into a stew, according to the description in the Pontiac, Ill., Leader:

From Cooked Rocks

There are two sources from which oil may be obtained, one from the underground lakes found chiefly in Russia and America, and the other from a rock called shale, which is saturated with oil like a sponge with water. In Scotland several million gallons of oil have been obtained from shale for many years past. Shale mining is similar to coal mining, it being soft and flaky. It is put into big cooking vessels and cooked until it gives off the oil in the form of a vapor, which is condensed and purified, resulting in the ordinary paraffin oil.

Still Approachable

Despite his acquaintance with the editor, the new owner of the filling station is easy to get along with, reports the Richmond, Tex., Coaster:

M. E. Abernathy of Wharton has leased the Nite and Day Filling Station near the bridge and would be glad to have you come and see him. He is a good fellow. I have known him ever since he was just a little kid, and you will find him pleasant to deal with. Yes, girls, he is single, and unattached, as far as I know.

Live and Let Live

Wrens, Ga., Reporter finds local example of freedom of thought:

They handle the products and of course they are deep dyed in their belief that only the Standard is the best. This is perfectly natural for any concern to believe his product the best, however, Mr. Fleming is liberal in his disposition to let the other fellow think what he pleases about this.

Anyone Want a Patient?

Centerville, Ia., American gives information on what will happen if oil is found at Seymour.

Much interest is centered upon this prospect now under way at Seymour some people don't believe oil will even be discovered on this land, but those in charge of the project say that for years it has been the belief that oil could be found there, and they feel sure that if they continue as it is now that their patients will be awarded.

This Should Fix His Clock

Crosby, N. D., Journal, in reporting the oil boom in Robinson, N. D., noted in this department previously, gives further information on Mr. Townley:

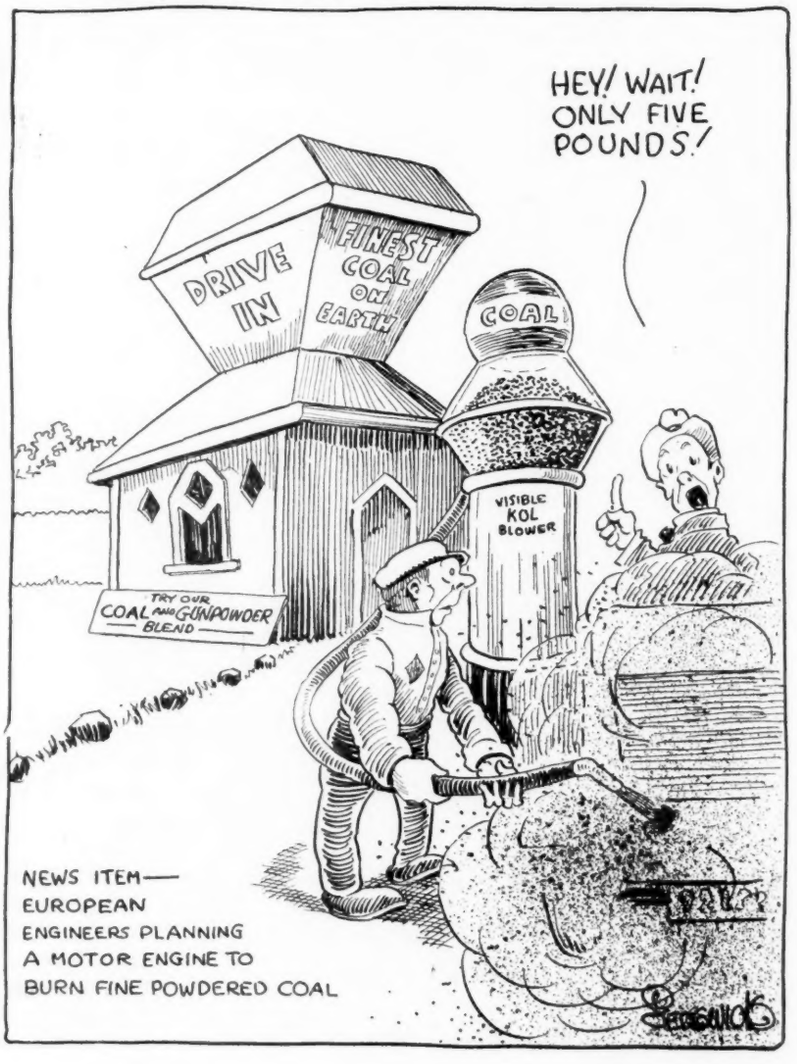
Reports received by state officials indicate that A. C. Townley, former Nonpartisan chieftain and one of the leading promoters in the Kidder county district, has just placed at least partial reliance in an "oil watch" imported from Kansas. It is alleged to be an instrument which when carried over the ground in a certain position, indicates the presence of oil. A few persons who visited another oil development prospect sponsored by Townley in Kansas, claim to have seen the "watch" in action and profess to believe in it.

He's a Skeptic

Editor of the Corning, Iowa, Press, takes a gloomy view of the goings-on at Seymour:

Now they have reported oil at Seymour at a depth of 985 feet. They do not know as yet the quality or quantity of oil in the well. We would make a guess there was not much. The oil boom at Hamburg a few months ago appeared in like manner but fizzled out in a hurry. It is said that the promoter of the Hamburg well is now in South America for the winter. The purchasers of his oil leases have probably given him a nice vacation at least.

THE MOTOR FUEL STATION OF THE FUTURE—MAYBE


HEY! WAIT! ONLY FIVE POUNDS!
DRIVE IN
FINEST COAL ON EARTH
COAL
VISIBLE KOL BLOWER
TRY OUR COAL AND GUNPOWDER BLEND
NEWS ITEM— EUROPEAN ENGINEERS PLANNING A MOTOR ENGINE TO BURN FINE POWDERED COAL

The Editor's Viewpoint

National Petroleum News

Let's Discuss Oil Conservation Broadly

ONE of the chief bones of contention in the present discussion of the report of the Committee of Eleven of the A. P. I. on the Supply and Demand of Petroleum, which report has been presented to the president and his Federal Oil Conservation Board, is whether the Institute should have discussed specifically what, if anything, the government can do to aid conservation of this natural resource.

So far the Institute and its committees have said nothing publicly about the government's relation to conservation. The report of the Committee of Eleven simply undertakes to assure the directors of the Institute, and the public, that, in its opinion based upon data from 250 technical men, there is no cause for alarm over the future petroleum supply—that when our present supplies run short, a time the committee does not set, there will be substitutes available.

While the report of the Committee of Eleven, itself has not been approved by the directors of the Institute, nor even by its executive committee and hence only stands as the opinion of eleven oil men, the policy of issuing only this report and nothing more at the present time is the policy of the directors and to that extent the policy of the Institute. Whether it is the policy of the industry as a whole only time can tell.

There is much to be said for this policy—it is like crossing only one bridge at a time. However, it is a pertinent question whether the Institute has properly identified the bridge and whether it has actually crossed it.

There is no doubt but what the main question is whether the industry is doing not only all it can do but all anyone else can do, to conserve petroleum. There is no doubt but the people, through the government, are going to determine this. In passing judgment the government is at the same time going to look around and see if by chance there isn't something it, with its greater power and influence, can do also.

It would seem reasonable to assume, therefore, that even if the industry agreed to a man with the Committee of Eleven's report—which the industry doesn't—the main point in the government's mind, of what if anything it can do, should be attacked.

A thorough and frank study of the industry's relation with the government would seem to be particularly desirable inasmuch as the Committee of Eleven's report represents only the eleven men, not the 54 officers and directors of the Institute, nor its 3000 members, nor the hundreds of thousands of men in the industry. The importance of petroleum to this country is so great that the government is not going to be satisfied with anything less than a definite determination of the question can it do anything itself. It is perfectly proper that the government should so consider it, no matter how much an administration may be committed to the policy of hands off business.

It would seem, therefore, that it would have been most desirable for the Institute to have had either this Committee of Eleven, or another committee, study the relation of the industry and the government in regard to conservation. No matter how controversial that subject may be, nevertheless it is the REAL subject before the industry and there is no use to dodge it. The Institute could have developed the legal facts involved. It could have ascertained at least a great many of the practical facts. It could have led the industry's discussion and thought on the subject.

What would have been the outcome of all this?

It would have shown conclusively to the government and the public that the industry was awake to the real issue and was bending every effort honestly to investigate all possible means of conservation, no matter how chimerical or even repugnant to American business ideals.

It would have stimulated informed thought in the industry so that every oil man could discuss it with some measure of understanding.

It would have brought out in the open all possible schemes of government intervention. These would have suffered the sanitary effect of the sunlight of public discussion and thought so that they early would have been regulated to whatever place of importance they might be entitled to.

And last, possibly through a series of represenative meetings, the thought of the oil industry might have been crystalized into some kind of a report, either as to facts or as to opinion.

Would not all this have put the industry in a stronger position to face the coming session of the Federal Oil Conservation Board and also Congress?

Let us hasten to add here that this paper has not yet heard of any scheme of direct government intervention on conservation that it believes will work, with all due respect to the great ability and high standing of the proposers of several of them. Maybe our mind isn't competent to grasp the idea but it doesn't at all events. However, we have no fears from the public discussion of any scheme, the greater the discussion the better for all concerned.

With all due respect, we think, the Institute officials, due to a seeming inability to understand how to deal with public opinion, made a great tactical error in shutting off all discussion of conservation ideas at the last Institute's meeting and in the past few years. Better had the Institute invited a public discussion, called on the world to submit its ideas, given every one full opportunity to describe and argue them, opportunity in meetings so far as possible, otherwise on paper.

The coming meeting of the Institute at Los Angeles could well be given over to a thorough airing of views on this subject. The sun is bright out there. The air is clear. The temperature kind to man's disposition. Every one should be able to get a clearer perspective on the whole subject.

—W. C. P.

Jobbers to Investigate Special Insurance

CHICAGO, Nov. 30.—INVESTIGATION of the feasibility of group liability insurance covering injuries and deaths of persons outside the employ of oil companies, losses arising from explosions of oils and gasolines and those arising from misdeliveries, will be made during the coming years by the National Petroleum Marketers Association. This was decided on at the annual fall convention. at Louisville a week ago.

Group insurance, if it is adopted, will not cover the ordinary fire risks or other liability insurance placed by oil and gasoline distributors with the insurance agencies of their respective communities, but only the special risks outlined in the preceding paragraph.

The problems involved in those risks are to be studied and inquiry made of rates and companies that might carry the insurance. The following resolution covering the proposal was adopted:

"It is suggested herewith that the officers of the National Petroleum Marketers' Association investigate the possibilities of having the Association handle the insurance for its members against risks arising out of explosions, misdeliveries, etc., the members insuring themselves as a group of the association probably being able to obtain not only much better coverage but also lower rates than they will if they insured themselves individually.

"It is suggested to investigate this proposition, that a study be made of the major basis of the problems as follows:

"To what extent are oil jobbers subject to claims made against them by the public on account of injuries, deaths, etc., by reason of the conduct of their business?

"To what extent do they incur losses arising out of explosions?

"To what extent do they incur losses arising out of misdeliveries?

"Is it economically advisable for an oil jobber to protect himself by insurance against uncertain losses arising out of explosions, misdeliveries, etc.?

"What kind of insurance policy or coverage will afford ample protection against the above risks?

"Is it advisable for the Association to receive a master policy and issue certificates to the individual members?

"What are the prevailing rates for insurance policies of the above kind?

"What rates can the Association obtain on such insurance policies for its members?

"What insurance company is available that will give the best coverage and the lowest rates?

"Should the insurance be carried with one insurance company or with more than one company?

In explaining the proposition further President L. V. Nichols said:

Enjoying the Louisville sun. C. H. Schuck, American Oil Corp., Jackson, Mich; C. E. Prince, Keystone Oil & Mfg. Co., and A. D. Dubuisson, Wolverine Service Station South Haven, Mich.

"The Association has felt for some time that a mistake was being made among the state organizations to try to cover all their fire and their ordinary insurance through collective insurance. We felt that was a mistake for this reason: if an oil man in a local community wants to have any standing with his automobile club and with the other civic organizations when somebody attempts to establish a community filling station or a community oil company, he shouldn't set the example by establishing a group insurance policy that takes all that insurance out of his home town.

"We felt it was a danger on the theory, and I think every one of you recognize it from your home situation, that as a rule the local insurance man is a very prominent, conspicuous, alert citizen and he is the kind of man that is most advisable to have back of you 100 per cent in those things that you need for local protection. What you save on that type of coverage is small compared to what you lose by having him your active opponent.

"This is a study of a type of insurance that has never been adequately covered for most of us. I have talked to several men here who say they carry this kind of insurance generally, but they also say there are a lot of details in the coverage in which they feel they aren't fully and adequately covered, and they believe a study of the thing should be made."

LAWRENCEVILLE, ILL., Nov. 30.—The annual sales and merchandising convention of the Indian Refining Co.'s district managers, agents and salesmen will be held at the home offices at Lawrenceville on Dec. .15, 16 and 17. Basil H. Anglin, general sales manager, will preside.

Sales policies and advertising program for 1926 will be discussed. Speakers well known in the oil industry will be invited to address the delegates.

Gilmore Heads State Officers Club

CLEVELAND, O., Nov. 30.—A permanent organization was effected by officers of state jobbers' associations with the paid secretaries as the nucleus of the membership at the recent N. P. M. A. convention in Louisville. Meetings will be held at the fall and spring conferences of the National Petroleum Marketers Association and at other times when conditions warrant.

James A. Gilmore, secretary of the Michigan Independent Oil Men's Association, was elected president of the new organization which is styled the State Executives' Club. W. H. Trimble, Western Oil Refining Co., Indianapolis and an officer of the Indiana state association, was elected vice-president, and Paul E. Hadlick, secretary of the Minnesota Petroleum Association, was elected secretary-treasurer.

Ray A. Overholser, secretary of the Wisconsin Independent Oil Jobbers' Association, presented a list of aims or points at a luncheon meeting after a conference with Mr. Gilmore, W. C. Hughes, secretary of the Ohio Petroleum Marketers' Association, and other paid secretaries. These points include:

Conferences to enable state executives to render maximum service.

Adoption of definite program.

Preparation and adoption of a code of association activities and efforts.

Standardize and dignify the profession of state association secretary.

Unified service.

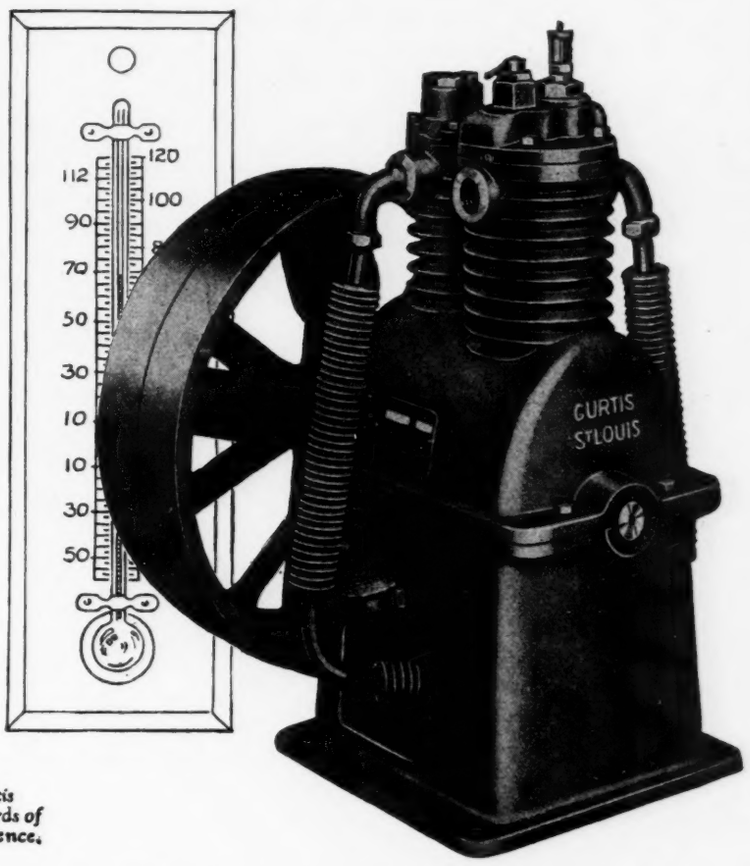
Preparation of bibliography of oil and other books for secretaries.

Definition of relationship to the national associations.

While the club is primarily interested in the betterment of the individual associations, it was decided that it should be the club's policy to co-operate with other organizations from time to time as occasions require, always looking to the betterment of the industry at large and its relations with the public.

CURTIS

1854 - Seventy one years - 1925



Curtis Standards of Excellence.

Copper is 138% more efficient than cast iron

as a radiating metal for inter-coolers. Cast-iron is much cheaper—but copper is much better. The whole purpose of an inter-cooler is to lower the air temperature during compression so as to compress a greater volume of cool and dense air with less power. Curtis Compressors are not only equipped with an inter-cooler of copper with thin integral radiating fins—but due to the vertical design, the inter-cooler is longer than that of any other compressor,—affording approximately 100% more cooling surface. Actual thermometer tests prove that Curtis accomplishes greater cooling than any other type—and therefore, greater efficiency. Only the largest automotive compressor production permits such quality equipment at such selling prices.

Curtis Compressors, Single or Two Stage, in varied sizes for garages, filling stations and industrial uses.

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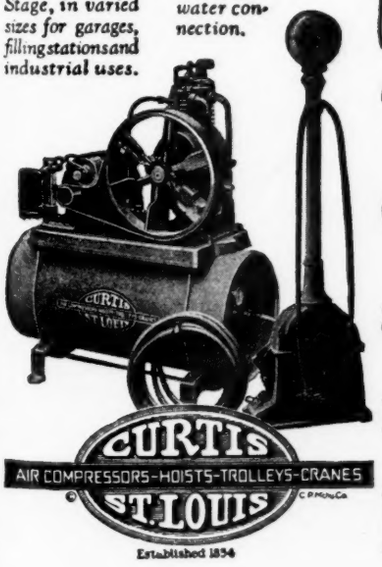

The list of companies that use Curtis Compressors reads like a "Who's who" in nearly every important industry.

CURTIS Pneumatic Machinery Co.
1520 Kienlen Ave., ST. LOUIS, MO.
Branch Office: 580-N Hudson Terminal, New York.

Gentlemen—Please send me full details on Curtis Air Compressor, your proposition and prices

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Address.....

Jobber's Name.....

Address.....

(Ask about Curtis Air Mist Car Washing System)

PETROLEUM
and its Products

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Marietta, Ohio Refinery
operated on Pennsylvania Crude

Findlay, Ohio Refinery
operated on Ohio Crude

Coffeyville, Kansas Refinery
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The
NATIONAL REFINING Co.
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CLEVELAND OHIO

3 MODERN REFINERIES
COFFEYVILLE, KAN.-FINDLAY, O.
MARIETTA, O.

It's up to You!

You can always pay more but you can never get better air compressors than Kellogg's no matter what you pay!

Kellogg EM 261-S
1½ Horse Power Motor
60 Gallon Tank
8 Cu. ft. of Air
Fully Equipped

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Kellogg Mfg. Co.
ROCHESTER, N. Y.

Oil Mining Discussed at Meet of Engineering Societies

TULSA, Nov., 30.

OIL mining is one of the most interesting and doubtless one of the most important questions before the oil industry of today, and will become increasingly so in the future as the necessity of increasing recovery from oil sands becomes more active. Great interest was manifested by the large crowd of engineers, geologists, and production men who attended the recent joint meeting of the American Institute of Mining & Metallurgical Engineers and the American Society of Mechanical Engineers, at which talks on oil mining were made by Leo Ranney, consulting engineer, of Fort Worth, and John L. Rich, consulting geologist, of Ottawa, Kans. The talks were followed by many questions and a thorough discussion in which a majority of the audience took part.

This was the first joint meeting of the petroleum divisions of the two national technical societies. It was decided this fall by the officers of the two groups that inasmuch as they are interested primarily in the same subjects, both would be benefited by joint meetings. Last night's meeting was under the auspices of the A. I. M. M. E., and was presided over by John M. Lovejoy, chairman of the Mid-Continent section. The next meeting will be led by the A. S. M. E.

Leo Ranney, whose oil mine near Jacksboro, Texas, has become famous throughout the oil industry, and who is the foremost figure in present-day oil-mining developments, read a paper and illustrated his remarks with lantern slides showing the plan of development and subsurface working arrangements under the Ranney process of oil extraction. Patents covering the Ranney process have been sold to the Standard Development Co., a subsidiary of the Standard Oil Co. of New Jersey. Mr. Ranney is engaged in consulting engineering work in connection with the installation of mines under the Standard-Ranney license. He says that one of the largest Mid-Continent producing companies is preparing to start mining operations at once in northeastern Oklahoma and also in southeastern Kansas, while other mines are planned for Ohio and Pennsylvania.

John L. Rich, who followed Mr. Ranney, told of a number of experiments he and his associates had made in Kansas, in which they had been trying to determine whether or not oil mining would be justifiable in some of the "shoe string" fields of the southeast part of the state. He said that they had taken a number of cores of oil sands and had become discouraged on account of the fact that most of the cores showed the so-called sands to be mostly shale with only very thin layers of oil-bearing sand.

The difficulty in finding a real, clean oil sand with enough saturation to render it profitable caused them to decide that oil mining was not practicable in that area and he apparently believed that this condition would prove a deterrent to all mining operations. However, it was brought out during the discussion, principally by Dr. A. F. Melcher, of the Marland organization, that there are many localities where thick bodies of real and continuous oil sands are to be found.

Mr. Rich pointed out also that pay streaks in oil sand are very often irregular, and stated that in five test holes drilled in five acres, the oil pay occurred at five different levels. He also called attention to the possibility that sand drained by ordinary methods would give up its remaining oil content only very reluctantly and ordinarily could not be mined without the use of artificial pressure-restoring methods. He said that one of their sand samples, five feet thick, showed a porosity of 24 per cent, which would represent an oil content of about 8000 barrels of oil to an acre, but that this sand "bled" oil into the hole to the amount of only four gallons in 15 hours. He also believed that there is very little movement of either oil or gas across the sand body, referring to the Ranney plan of drawing oil from the bottom of the sand while forcing air down from the top.

However, he stated that he and his associates had come to the conclusion that oil mining should proceed by tunnels along the edge of the property with air forced down to the sand from the center, which is the way it is to be done on the Ranney plan. He said also that the study of oil mining should go hand in hand with a study of the best method of applying artificial pressure, the success of one depending to a large extent on the success of the other.

T. K. Willett, mining engineer, told of his visits to the Ranney mine and stated that he considered it an entirely feasible and practicable method of recovering oil from otherwise dead sands. He said that as a result of investigations made around Jacksboro, he had determined that about 50 wells had been drilled to the 100-foot sand in which the mine is being operated and that during 30 years only about 500 barrels of oil had been brought to the surface. The Ranney mine, he said, brought out more than 400 barrel in four months, which he considered a wonderful performance.

Mr. Ranney spoke interesting of having had an opportunity to examine a shot-hole in one of the old wells near his mine-tunnel, and stated that there was no cavity caused by the shot but that its effects could be seen by long cracks extending out considerable distances.

Dr. Melcher told of having gone down into the oil mine of the Panhandle Refining Co., near Electra, Texas, which was described in the Nov. 4 issue of National Petroleum News.

Patents As Now Issued Do Not Protect Inventor Nor Industry

By Paul Truesdell
N. P. N. Staff Writer

Article 2

CLEVELAND, Nov. 30

IN appointing judges to the federal court bench, although politics plays some part, the effort is made to pick men of sound and thorough legal training. Not only are the men selected usually well grounded in the law as it is learned from books, but they are also veterans with long experience in actual practice.

For that reason, when a judge decides a case, it is very likely to be regarded as settled. The decision handed down from the federal bench is generally treated with respect. It is regarded as important and probably right because it is the reasoned opinion of a man thoroughly familiar with the law and of sufficient mental training and capacity to weigh correctly the facts in the case.

Sometimes, of course, appeal is taken from the decision, but in proportion to the total number of cases tried, the number of appeals is small.

It appears to us that the function of the examiners in the patent office is very similar, although in a narrower field, to that of federal judges. The duty of the judges is to decide disputes between individuals or companies and to do justice between them. The subject of the disputes may be various.

Patent Examiners and Judges

The duty of the patent examiners is to decide on the merits of claimed inventions and to decide disputes between patent claimants and do justice between them. Where the decision of the federal judge, however, usually affects directly only the parties to the dispute, the decisions of the patent examiners may have direct bearing upon a whole industry, the oil industry or any other.

So it would seem that the same care should be exercised in picking patent examiners that is exercised in picking federal judges, in fact more, because, while the judge only has to know the law and have a mind capable of analyzing ordinary everyday facts, the patent examiner must not only be versed in the law as it applies to patents but he should also be thoroughly versed in the industry covered by the division in which he is working and should have the technical training and mental capacity to understand the technology of the industry and the relation of the claimed inventions he has to consider upon that industry.

When the patent examiner has handed down his decision, which means, has allowed a patent, is this received with the same respect as the decision of a federal judge? By no means. A patent is not taken very seriously by anyone who wishes to infringe it, unless it is held or backed by some strong corporation or individual whom the infringer would hesitate to go to the mat with in a fight.

In fact, most any patent lawyer will tell you that the issuing of a patent is regarded by those initiated into patent office operations and their bearing on industry, merely as a preliminary to a court fight to test its validity.

This, of course, means only patents that are of great importance. One patent lawyer roughly estimates that 25 per cent of the patents issued are of no earthly use to anybody. The article they cover will never be manufactured and sold and so do not enter into the picture.

Some patents, particularly nowadays, are on inventions so new that there is no possibility of their having been anticipated by earlier investigators. It is in the field where many previous patents have been issued and where improvements in equipment and operating method are being made every day, like the cracking of oil that most of the trouble comes.

Why is it that a patent is not taken seriously? It is because the patent examiners are not competent to pass wisely on the matter put before them in many cases.

Who Are The Examiners?

Who are these patent examiners? Where do they come from and what is usually their equipment for the job?

Almost without exception they are young men just graduated from engineering or technical schools, whose inclination is to use the technological knowledge they have gained along the line of patent law practice rather than work out a career in the technical side of industry. To these the patent office offers a stepping stone to the career of patent lawyers. The salary paid, about $1,800 a year on the average, serves as a life preserver to float them while they study law and fit themselves for their future vocation.

It takes about two years for a young man to finish a law course in night school in Washington and that is just about the average length of time the young men stay in the patent office. And the brighter and more promising they are, usually, the shorter their stay.

With about 500 of these young examiners in the patent office, and with the average length of time they put in at the work two years, they are constantly coming and going and there are at all times in the office men who have been there a year or six months or even less. In such a huge, involved and rambling organization as the patent office, both physically and otherwise, a young man can hardly even learn his way around the corridors, halls, alcoves and other ramifications of the buildings in six months, let alone familiarize himself with the art in which he is working and the location of the voluminous and often scattered files that bear upon that art.

Just Lines and Words

The examiners come to the patent office exceedingly green. All their knowledge is theoretical. They have no background, in actual industrial practice. To them, if it means anything, a piece of machinery or an installation of in-

The Poor Fish

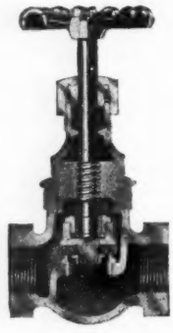
Herewith is a sample of what may happen in the patent office. The following is not taken from a joke book but is copied exactly from U. S. Patent No. 1,180, 753 issued to William P. Zeigler on April 25, 1916.

The patent covers an artificial fish bait in which mirrors are used. Here is the way it is supposed to play upon the emotions of the fish:

"A male fish seeing his image upon looking therein (in the mirror) will appear to see another fish approach it from the opposite side with the intent to seize the bait, and this will not only arouse his warlike spirit, but also appeal to his greed, and he will seize the bait quickly in order to defeat the approaching rival.

"In case the fish is suspected of cowardice I may make the mirror of convex form, in order that the rival or antagonist may appear to be smaller.

"In the case of a female fish, the attractiveness of a mirror is too well known to need discussion. Thus the bait appeals to the ruling passion of both sexes, and renders it very certain and efficient in operation."



Sectional view, Fig. 128 screwed, Jenkins Extra Heavy Bronze Globe Valve

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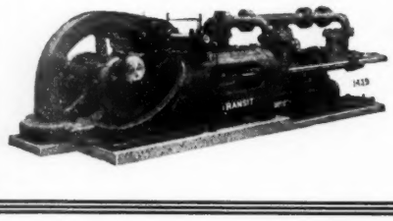

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dustrial equipment means a mechanical drawing, a number of fine lines lettered a, b, c, d, and so forth.

It does not mean a structure of fire brick, and steel and bolts and rivets, with furnaces roaring and wheels spinning The examiner has no idea, in nine cases out of 10, what the apparatus he is passing on is really designed to do in terms of turning out real products that are useful to mankind. His understanding is confined to words, rather than the vital facts of useful industry.

As a sample of this, one man told the writer—he is now a practicing patent lawyer,—that he was for six years an examiner in the division which handled patent applications on cream separators. In all those six years he never saw a real cream separator, let alone one at work doing the thing it was designed to do, making it possible for the farmer to make more money out of the milk his cows produced.

This man said that all the drawings of cream separators which he had to study included a circular drawing of a disc. He noticed in all these drawings that a small circle was always drawn in the center of the large one and he always took it for granted that the small circle represented a hole in the disc. Curiosity over this point finally led him to ask questions from somebody who really knew cream separators, and he found, to his amazement, that the small circle represented a lug instead of a hole, that the disc was solid and the lug attached to it.

This man was a student and interested in his work. He mastered the literature of cream separators and the only reason he did not go and see one working somewhere was because he had little chance to do so while at work. But most of the examiners have little curiosity. Invention to them is a matter merely of drawing lines in a certain way on paper and using words in a certain way in phrasing patent claims.

A good many of the examiners, however, undoubtedly are really fitted by nature for the work but they don't stay long enough to become valuable. Just about the time they begin to get their feet under them and learn enough to make them really competent, they leave to join some law firm or to hang out shingles for themselves.

Patent Office Rewards Small

They are not to be blamed, for the rewards the patent offices hold out, even the highest in the department, are not of sufficient attraction to cause an ambitious and able young men to make that career his life work. So the inventors and industry in general pay the bill for the education of the patent examiners, who, as soon as they get enough education to make them of use, quit and exercise for the benefit of private clients the knowledge that they gained at industry's expense.

The patent office is one of the few government departments that has been

self-supporting. Until last year, it always showed a profit and this fact has always been pointed to with pride by its officials. However, the inventors and the industrial companies that pay the fees connected with filing and prosecuting patents have really been paying these fees under false pretenses.

They thought and had a right to think they were paying the fees for sound patents which would give them protection in their inventions, whereas, in many cases, they were merely paying for loads of litigation and trouble.

There are 53 divisions in the patent office, each dealing with some particular industry or a group of industries. Each division has 8 or 10 examiners in charge of a chief examiner. Here is about the way a patent application proceeds through the office.

When the application is filed it goes to the chief examiner of the division in which it belongs and he assigns it to one of his examiners. Three months to a year go by. Then the examiner in charge of the application, presumably having made a search of the art pertaining to that particular application, transmits to the inventor's attorney through the commissioner of patents, his comments on the case.

These comments and the future course of the application may be as varied as the nature and character of the individual examiners. Occasionally the application goes through without a hitch, but this is rare. If it does not meet with any opposition it may be because there really is nothing in the art that anticipates it.

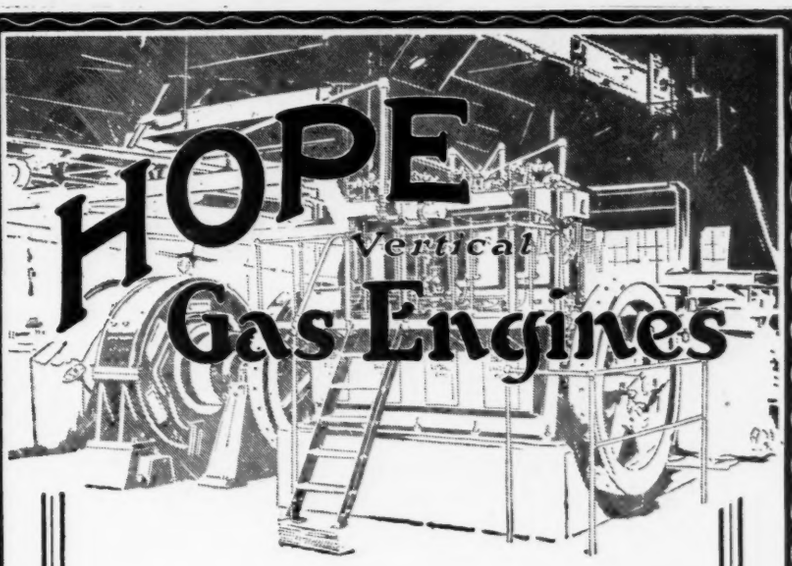
Again, it may be because the examiner failed to find anticipation in some prior patent or failed to recognize it, if he did find it. Still again, it may be because the examiner is easy going and dislikes to oppose anybody or to bestir himself to prove his point.

How Examiners Work

Usually the examiner cites a number of prior patents which he thinks show anticipation of the application. The more conscientious he is the more patents he is likely to cite, on the possibility that some of them may invalidate a patent that might be issued on the application. Sometimes an examiner is merely captious and insists upon changing the wording of the application to suit his own ideas, which may or may not be correct.

It is interesting in this connection to state that one of the guides much used and followed by examiners working in the field of chemistry is a "Condensed Dictionary of Chemistry" which is a truly remarkable work. This book defines gasoline as a liquid recovered from still gases, give kerosene a gravity heavier than water and makes it synonymous with crude oil.

Sometimes the examiner merely orders the insertion of commas or semi-colons



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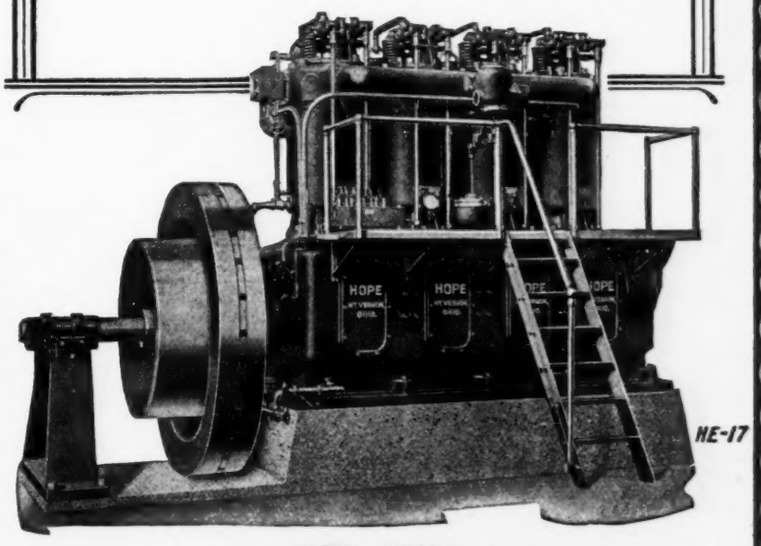

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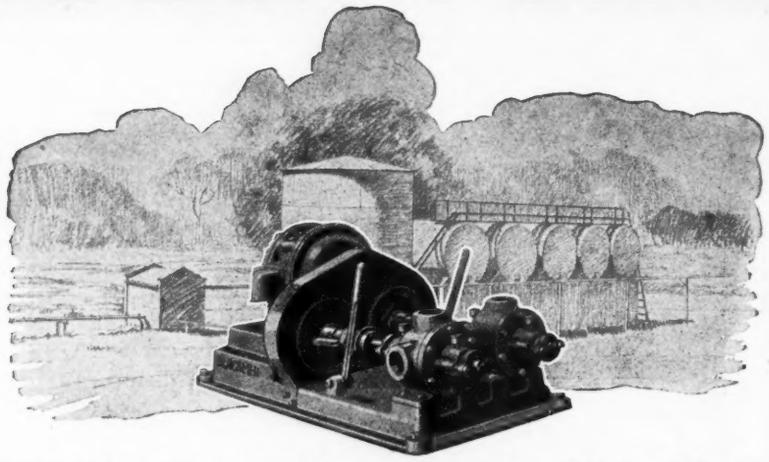

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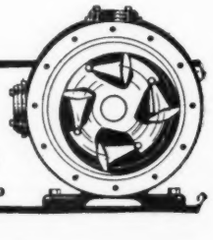

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or changes the spelling of some technical terms. Sometimes where the applicant uses the word "soot" the examiner will change this to "carbon" or something of that kind. Many of the examiners, through their extreme conscientiousness, stubbornly resist the issuance of perfectly good patents in their zeal to prevent anything wrong from slipping through. A good many enjoy their position of authority as government representatives and use it to harass the patent lawyers.

Many times, of course, the examiners do a good job and find something that really anticipates the claims made in the application they are considering. In such a case, a rather onesided battle begins with the examiner on one side and the attorneys for the applicant on the other.

Most Patent Lawyers Honest

Patent lawyers are just like other people. Most of them are honest but some of them are not. Whether honest or not, the lawyer is working single mindedly for the interest of his client and he brings to bear all his superior skill and experience in beating down the examiner's objections to granting the patent.

The lawyer knows his business and the examiner, as a rule, does not and to him it is just another patent. He has no personal interest in it either way. The law says that a number of old elements in a new combination is patentable and that a device to be added to an old invention which affects the operation of the entire equipment or process is patentable.

The inventor of an improvement has, under our law, to claim the whole invention as well as his own improvement and it is easy to see that, with the maze of words that can be drawn relating to all these provisions, what a smoke screen the lawyers can create and often do create to befog the inexperienced examiner, turn him aside from the main issue and win their point.

It is the same kind of battle you would have in the court room if a young law school student were to appear on one side of the case and say Samuel Untermeyer or Clarence Darrow on the other. Regardless of the merits of the case the betting would be heavy on the more experienced attorney.

The law provides that, in case an application is three times rejected by the examiner, it may be appealed to the board of examiners in chief. The theory of this is that the examiners in chief will review and correct the work of their subordinates if any mistake has been made in rejecting the claim for patent.

However, not many attorneys take this appeal now because it is now said to be the custom of the board to arbitrarily uphold the position of the original examiner without going into the merits of the case at all, simply because they want to discourage the taking of appeals.

WHAT are the petroleum possibilities of Mississsippi and Alabama?" is a question that is asked frequently in letters to National Petroleum News. Georgia, and more recently Florida, are also subjects of inquiries.

All the states of the most southeasterly part of the United States have had some drilling for oil and gas, but the question of whether these resources exist in important quantity has not been answered by such drilling as has been done. Much further geological and development work will be required.

Paul Wagner, National Petroleum News staff writer, whose series on Louisiana and Arkansas was recently concluded, begins with the present article a series on the southwestern states. The collecting of material for this series is taking him to various parts of the region he describes. He will discuss the evidence that is available having a bearing on the occurrence of oil and gas in these states.

The present article discusses in a general way the three divisions of the region and mentions several tests of importance.—Editor.

Petroleum Possibilities of Southeast Exist in Three General Areas

By Paul Wagner
N. P. N. STAFF WRITER

Article 1 in a series on Southeastern States

THREE physiographic sub-divisions of the Eastern Gulf and South Atlantic regions assume important aspects in any consideration to be given the petroleum possibilities of southeastern states. These sub-divisions mark areas that are similar in one way or another to territories producing oil elsewhere in the United States.

Briefly, these sub-divisions may be referred to as (1) the Gulf Coastal Plain, which is roughly analagous to the saline dome producing area of Texas and Louisiana except that no salt domes are actually known to exist at points east of the Mississippi river; (2) the Interior Coastal Plain of the broadly termed Mississippi embayment, which dips Gulfward from the belt of Cretaceous outcrops found around the rim of the embayment area, and (3) the southwesterly extension of the Appalachian uplift into parts of Alabama and Georgia.

The Cretaceous rim of the Mississippi embayment may be traced south-southeasterly from Cairo, Ill., across the western tip of Kentucky into Tennessee and northeastern Mississippi, thence past the towns of Troy and Clayton, Ala., toward Augusta, Ga. Such a belt of Cretaceous outcrops marks roughly the east side of the Mississippi embayment and the Coastal Plains extension around the old Appalachian land mass.

It is interesting to note, in this connection, that a similar belt of Cretaceous outcrops extends southwesterly from Cairo, Ill., across Arkansas and Texas, along an oil producing trend of great economic importance.

Oil fields of the Balcones fault zone in Texas have been invariably found along and near the surface contact of Cretaceous beds with those of post-Cretaceous age, generally in the area of Midway-Wilcox outcrops.

The Smackover field, than which there has been no greater development in American oil history, offsets Cretaceous outcroppings at a point south-southeast of the rim of the embayment area in southern Arkansas.

The Balcones fault zone, which parallels roughly the Cretaceous outcrops in Central East Texas, may be traced southwesterly from the Mexia-Powell region past Luling, in Caldwell and Guadaloupe counties, thence beyond San Antonio into Mexico near Del Rio.

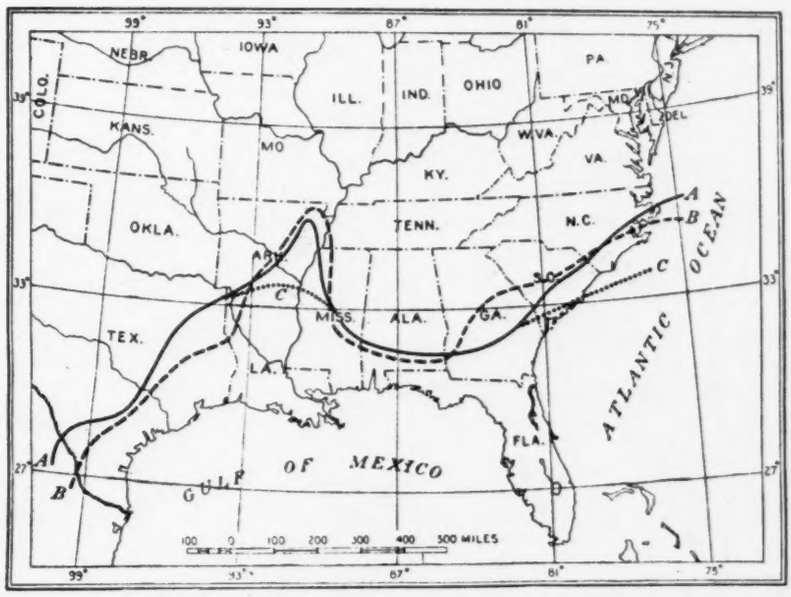
Although the horizons yielding oil along this Texas trend are different from place to place it is conceivable that in many instances, Cretaceous and older rocks that are now covered by more recent sediments were the source beds from which oil migrated upwards into present reservoirs.

Because of these conditions on the west side of the embayment, the Cretaceous and more recent sediments have been (and still are) emphasized for petroleum possibilities in their somewhat related position in the Eastern Gulf region.

The whole extent of the east and west sides of the Mississippi embayment may have structural conditions favorable to the accumulation of oil. It is more particularly toward the petroleum possibilities of Mississippi, Alabama, Georgia and Florida that the present discussions are, however, directed.

The Gulf Coastal Plains area in these states may be broadly considered to approximate the saline dome producing territory of Texas and Louisiana insofar as drilling depths to normal positions of reservoir rocks are concerned. In the last mentioned states, these reservoir rocks have been, inferentially, brought upwards to drillable depths by the intrusion of salt domes or they have been fed from underlying source beds as a result of similar influences.

It appears, therefore, that the general area of Cretaceous and later sediments in the southeastern states is divisible, as



The Mississippi embayment referred to in the accompanying article corresponds roughly to the line A-A in the above sketch map. The Cretaceous outcrops mentioned would be somewhat farther inland were the map to attempt their exact placing rather than merely affording a key to the embayment generally.. The map (after the U. S. Geological survey) shows the landward margin of deposits in Eocene time: A-A, upper Claiborne deposits; B-B, lower Jackson deposits; C-C, lower Claiborne deposits.

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in Texas, into two parts. One of these, near the coast proper, probably will yield petroleum only under conditions approximating the result brought about by the elevation of deep-seated source rock through the influence of such a medium as the salt domes west of the Mississippi river. In the Interior Coastal Plain the beds sought with the drill may be found at reasonable depths at points structurally favorable.

Appalachian Uplift Influence

Within the area of the outcrops of the Paleozoic rocks and within areas where these rocks are covered by Cretaceous beds, the geologicol and producing conditions may be expected to be similar to those which exist in Pennsylvania, Ohio and West Virginia with the exception that drilling depths and oil recoveries will be governed by local conditions which make direct comparisons impossible at present.

Small amounts of oil and gas have been found in Paleozoic beds in northern Alabama, as for instance the gas at Fayette and the petroleum in Lawrence county.

The old Goyer well, in 29-7N-6W, Lawrence county, was drilled to total depth of about 1500 feet in 1891 when it started producing at the rate of 25 barrels daily of 38.7 Be. gravity oil before the casing buckled and let in salt water. The well was never put on commercial production and subsequent drilling in the territory has been of inconclusive character.

Fayette Gas Well

In the Fayette gas field, in Fayette county, the first showings are found at about 500 feet below sea level, or at drilling depths of 850 to 950 feet. Douglas R. Semmes told the American Institute of Mining & Metallurgical Engineers, in 1920, that the Fayette gas sands should be about 2000 feet above the base of the Pennsylvania beds if their maximum thicknesses were represented in the area, but he said that deep drilling had indicated the total thickness of the Pennsylvanian to be not more than 2500 feet in this region.

The Fayette gas and the Lawrence county oil approach the nearest to commercial quantitites of any showings found in southeastern states, except possibly small amounts of oil near Glen Mary, Tenn., also in the Appalachain province. A few small wells were drilled at Glen Mary, but they never reached producing proportions of importance.

Neither in the area of the Paleozoic outcrops (Appalachian province) nor outside of it in the Mississippi embayment has there been enough exploratory work to prove or disprove the petroleum possibilities of the general southwestern region. There has been no intensive wildcatting after the fashion that this pursuit is carried on in territory more definitely indicated to have oil possibilities.

One of the latest showings of oil in Mississippi was in the test known as

(Continued on page 63)

HERE AND THERE

John Getgood, who for the past two years, or ever since he came over from the Old Sod, has been in the Tulsa Marland office, under J. R. McGinley, has been transferred to Ponca City, where his oil education will be broadened by a sojourn in the refining department. It is denied that he is being groomed by the company for a position as president of the Marland Oil Co. of Ireland.

* * *

Branch managers of the Tri-State Refining Co., Kenova, W. Va., were recently entertained by officials of the company at a get-together meeting at the company's refinery. A banquet was held at the new Prichard hotel at Huntington in the evening. These meetings will be held regularly in the future, according to W. R. Bruce, salesman in Kimball, W. Va. territory.

* * *

C. P. Bowie, petroleum engineer in charge of the San Francisco office of the U. S. Bureau of Mines, made a trip to Colorado during October to inspect the oil shale plant the Bureau is erecting near Rifle on the Denver and Rio Grande railroad. He recently returned to San Francisco.

* * *

H. P. Harber, proprietor of the Albert Lea Oil Co., Albert Lea, Minn., left Minnesota last April and embarked on a six months' trip through 25 states. Mr. Harber is down to business again, but now in Huntington, W. Va.

* * *

Ralph H. Lape, traveling representative of the comptroller's office of the Transcontinental Oil Co., has recently moved his headquarters from Pittsburgh, Pa., to Tulsa.

* * *

J. L. Rogers, of the Rogers & McKenney Oil Co., Dry Ridge, Ky., left recently for Florida to spend the winter, reports C. E. Robbins, general manager of Robbins Oil Co., Falmouth, Ky.

* * *

Phil Clark, construction superintendent for the H. Earl Clack Co., Havre, Mont., has completed the installation of another bulk storage tank for Hecolene oils at the Kalispell, Mont. division, according to E. F. Smith.

* * *

M. W. Bottomfield, formerly at Oakmont, Pa. with the Transcontinental Oil Co., has moved along with the company to its new headquarters at Tulsa.

* * *

R. L. Parker, agent for the Gulf Refining Co., at Toyah, Tex., has returned to his desk after a few days in Wichita Falls, Denison, Tex. and Oklahoma points.

E. G. Sinclair, of the production department of the Mid-West Refining Co., Casper, Wyo., was in Tulsa to attend the Nov. 20 meeting of the A. I. M. M.E. and the A.S.M.E. He says that his company is interested in oil-mining. It is believed that the Mid-West is studying ways to mine the sands in the Salt Creek field when their production has been exhausted by other methods.

* * *

R. T. Hand, formerly special agent for the Standard Oil Co. of California at Chowchilla, Calif., has been appointed district manager of the California Petroleum Corp. of California, at Oakland. The company maintains a distributing plant at Parr Terminal, Oakland, and began distribution on Nov. 1.

* * *

L. B. Fortner is now managing the Montoursville, Pa. plant of Beyer & Fortner, Inc., and reports that the company's new Clydesdale truck with its orange and black trimmings, is attracting attention in the vicinity of Williamsport.

* * *

W. T. Scully, manager of the Pennsylvania Oil Co. at Dillon, Mont., reports enjoying a nice business this season. Mr. Scully states that gasoline sales have been 15 per cent greater than last season. The company operates a bulk station only.

* * *

B. D. Dawson, formerly with the Wichita Refining Co., of Wichita Falls, Tex., has succeeded P. H. Hertzog as sales manager of the Amarillo Refining Co. at Amarillo, Tex., according to E. L. Moon, manager of the latter company.

* * *

Mr. and Mrs. B. T. Thompson, Chicago, recently spent a week-end with W. E. Smith, vice president of the Standard Oil Co. of Kentucky, at Louisville. Mr. Thompson is sales manager for the Standard Oil Co. of Indiana at Chicago.

* * *

Miss Hedwig T. Kniker, formerly paleontologist for The Texas Co., Houston, is now in charge of the sub-surface laboratory of Ricker & Dodson at San Angelo, Tex.

* * *

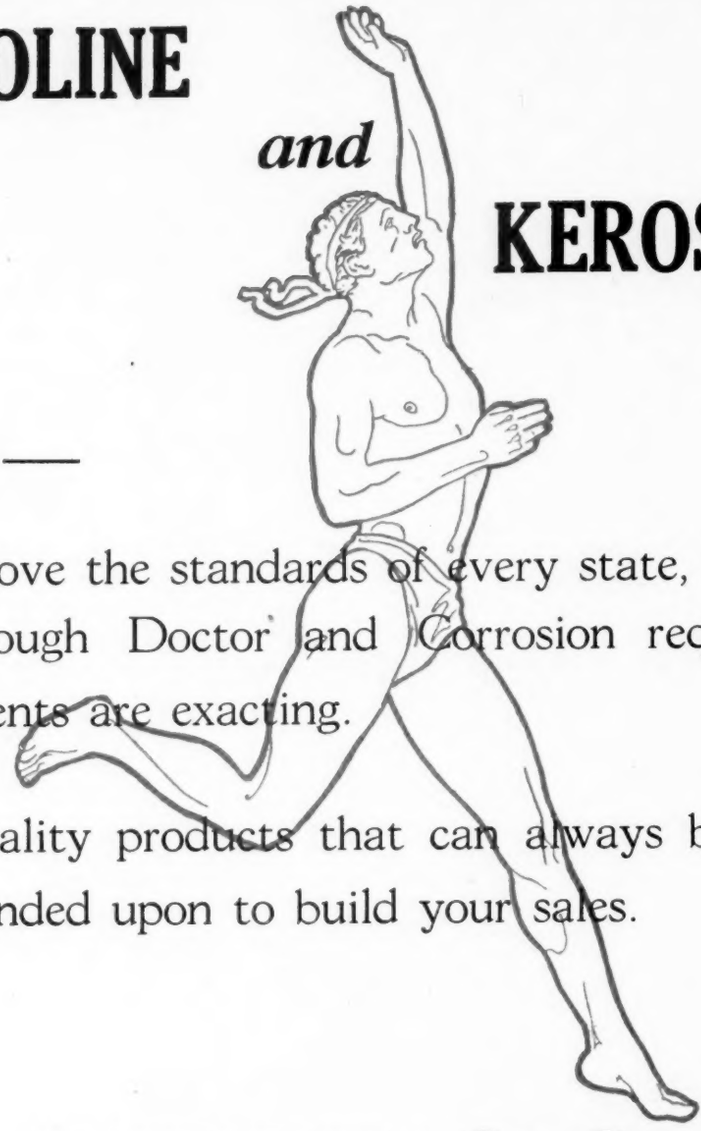
J. F. Snyder, foreman for the Skelly Oil Co. in the Bristow, Okla., district, who has been absent for the past two months on account of illness, is back on the job, feeling fine.

* * *

Rupert P. Ricker and Floyd C. Dodson, of Rickerson & Dodson, San Angelo, Tex., have returned to their headquarters from St. Louis.

MARATHON

GASOLINE *and* KEROSENE



are:—

—above the standards of every state, even though Doctor and Corrosion requirements are exacting.

—quality products that can always be depended upon to build your sales.

TRANSCONTINENTAL OIL COMPANY

Producers, Refiners and Marketers of Marathon Quality Products

EXECUTIVE OFFICES: NEW WRIGHT BUILDING, TULSA, OKLAHOMA

Sales Offices

Atlanta, Chicago, Des Moines, New York, Fort Worth, Muskogee, Bristow, Charleston, Pittsburgh, Sioux City, Tulsa

Refineries

Boynton, Bristow, Fort Worth

Warehouses at convenient shipping points

(Continued from page 61)

No. 2 Finkbine, in 7-3-3, southeastern Rankin county, near Jackson, in the south central part of the state. A showing at approximately 3500 feet is reported to have been more important than traces of oil logged at levels below 1100 and 2000 feet. The oil is said to have tested 42 A. P. I. gravity.

Texas-Louisiana Beds Present

Both the Ripley and Tuscaloosa formations, which conform, respectively, to the Nacatoch and Woodbine oil pays of Louisiana and Texas, dip under the region in which the Finkbine test was located; but the depth at which they should be found is not clearly established.

It is possible that the shallow sand in which Captain Nady et al are reported to have had an oil showing at 750 feet in Tishomingo county, in 1903 and 1904, was in the Tuscaloosa formation.

An 1850 foot showing found by the Iuka Development Co., in 9-43-11E, also in Tishominga county, probably was in the lower Cretaceous beds as the test had penetrated the Ordovician at 2000 feet.

Seepage Oil in Georgia

In the Georgia Coastal Plain seepage oil was reported several years ago in the vicinity of Scotland, Telfair county, but drilling in that territory has uniformly failed to develop commercial production.

A barrel or more of crude petroleum is reported to have been taken out of a test drilled to 3040 feet by the Waycross Oil & Gas Co., near Fredall, Ga., 10 miles south of Waycross, in 1915.

Florida Reports Shows

Shows of oil are reported to have been logged in Florida in a test drilled in 1903 by the Pearson Oil & Gas Co., near Sumterville, in Sumter county, to 2002 feet; and in tests of the Bonheur Development Co., near Burns, in Wakulla county, where the drill penetrated to a maximum depth of 2169 feet in 1916 or 1917.

E. H. Sellards and Herman Gunter, summing up general considerations bearing on petroleum possibilities for the Florida Geological Survey in 1922 said:

"With regard to structural features in Florida it may be said that there are pronounced structurally high areas of regional extent in the state, among which are the Marianna-Chipley area, the Tallahassee area, the central peninsular Florida geanticline or dome, and in addition the somewhat isolated doming at Live Oak. It is probable that structural features favorable to the accumulation of oil exist within these areas and may exist elsewhere."

The foregoing discussion which sums up broadly the reasons for believing that petroleum possibilities exist in the Eastern Gulf and South Atlantic region, is intended as a general statement preliminary to more detailed conclusions to be reached in future articles of a series dealing especially with the states of Mississippi, Alabama, Georgia and Florida.

Do you Want a Thoroughly Designed Cab—

or the haphazard product of a Local Builder?

COMPETENT engineers have designed Highland Cabs to meet in detail the exact conditions under which your cab will be used. There is a reason behind even the smallest features of construction.

Highland cabs have clear vision because they contain a good grade of glass instead of celluloid that scratches easily and turns color. They have no corner posts and the blind spot has been reduced to an absolute minimum so the driver can see what he is doing in traffic—and avoid accidents.

Easily made adjustments enable the cab to be used fully open, fully closed, or half open according to conditions. Any change takes only a second.

Doors and windows slide out of sight. They do not swing wide open—for that in itself is often the cause of accidents. Long material that overhangs in front beside the cab can be loaded and still the driver can get in and out.

The doors are wide and easy to pass through. There is plenty of room inside. The seat and lazy back are wide, deep and soft. The patent steel construction is as noiseless and rattle free as can be built. The job is neat, trim and makes a splendid impression on your customers.

The Highland Cab is made not merely of metal and wood. Some high-grade thinking went into it. Yet because it is made in thousand lots and sold everywhere it costs no more than a make-shift job.

Every truck manufacturer or dealer can supply Highland cabs. Insist on Highland and get the greatest cab value ever offered. For trucks now in use our local distributors in most cities can supply you. Write for prices and the name of your nearest distributor.

THE HIGHLAND BODY MFG. CO.
Elmwood Place, Cincinnati, O.

HIGHLAND *Cabs*

COUPON BOOKS
of Every Description
for the Filling Station

We will gladly send samples and prices upon request

Allison Coupon Co.
Indianapolis Indiana

The RUNYEN

High Pressure Chassis Greasing Outfit

A sturdy, always dependable one-man outfit at a price way below anything else on the market.

It's speedy. With a Runyen, one man can thoroughly grease a car in half the usual time. Tremendous pressure is easily obtained.

The Runyen will last a lifetime and earn profits every day.

Send a trial order now!

List Price

$28-

F. O. B. Grand Rapids

PULTE · KORRECK MACHINE COMPANY

231C Iona Ave., N. W.
GRAND RAPIDS, MICH.

Gassing Slightly

By Rollin Stone

BEFORE launching into the technical discussion that is to follow, I wish to say a few words to explain the position I am taking on this silly question of oil supply for the future.

The thousands who know me best know that not only do I refrain from leaping into discussions that are none of by business but they know also, if they have ever stopped to think about it, that they will get their money just as soon as I get on my feet again.

My fitness to discuss oil reserves is unquestioned by even my severest critics. I have had my opponents, of course, In an address which I delivered to the Mule Buyers' Association of America, I made certain predictions which aroused spirited debate, one of the mules going so far as to say that I was braying up the wrong tree. This criticism caused me to change the tenor of my views and put them on another base.

As the twelfth member of the Committee of Eleven, I worked hard, right up to the time I had that trouble with my back, estimating oil reserves. That my report was not accepted by the committee was due, I am certain, to politics. My consistent urging of a tax on golf players has naturally hurt me with the oil executives. So, I expected little recognition from the committee.

Without setting forth the details of my estimate of oil territory, I think it only fair to show the care with which I compiled my unpublished report. At the outset, I prepared to do the job in workmanlike manner and subscribed to a clipping service which gave me the names of lots of towns where they think they will get oil if the farmers will only be sensible, lease their land and take nominal amount of stock in the company which the leading oil man from Oklahoma is promoting.

My conclusions drawn from the data I gathered are subject to attack by anyone. I put myself on record to the effect that we will have plenty of oil for all ordinary purposes and if that bird next door will stop running his motor for two hours every morning to warm it up the supply will last a dam site longer and if he does it again I'll call a cop. If he would save the gasoline he wastes he could afford to heat his garage and somebody could get a little sleep around here.

My report is open to the federal questionnaire board any time it wants to see it. They won't ask for it, though. They don't want the facts. All I have to say is if they don't like the way the oil industry is run, let them go back where they came from. What have they ever done? Nothing but fuss around court martialing Col. Mitchell and joining the League of Nations. While they have been in office, my friends, bank robberies have increased 327 per cent and the paving gets worse every day.

In recent weeks, my position on this great national question has been greatly strengthened by an interview given out by Mr. Roger Babson, the man who draws those charts which show how worthless your money is now compared to the pre-war currency. He sells these for quite a lot of worthless money.

Says Mr. Babson:

"When we consider the available supply under ground already blocked out and located, we find there is enough to last forty years. . . . .This is on the basis of known deposits and not exceeding eight or nine thousand feet below the surface."

Forty years and eight months was the time limit I placed on these deposits, but I am willing to split the difference with Mr. Babson on it. On the question of not going below eight or nine thousand feet, I am with him. Nobody can stay closer to the surface than I can.

"Everything leads statisticians to believe, however, that operators will continue to drill deeper and deeper and that wells will go 10,000, 12,000 and even 15,000 feet deep. What will be found by going this additional 5000 feet no one can tell, but all statistics indicate that a tremendous supply will be available," Mr. Babson said.

I am glad to find that the matter has been placed in the hands of the statisticians, as he indicates. I am proud to be considered one of them, myself, and no one realizes better than I just what strides we have made in the past century. The chief difficulty now is that drillers, geologists and equipment makers do not give us that high degree of cooperation needful for the demonstration of the foregoing belief. We have reason to expect some legislation soon that will bring them to our way of thinking.

"States like New Mexico, Arizona, Louisiana, Alabama, Mississippi and Georgia probably contain oil," Mr. Babson said, "while Florida has excellent oil prospects if one will drill deep enough. This deep drilling should increase the supply of oil to at least 100 years, although it will add to the expense of production."

Both Mr. Babson and myself look for Louisiana and New Mexico to break into the producing column before long, or at least as soon as they get some better statistics. It is time for these states to stop their foolish local rows and get down to business. As for Florida, nobody knows who owns the acreage and drilling probably will be delayed until the final purchaser finds out that he is going to keep the property.

Mr. Babson thus adds on another 100 years' supply. With the forty years mentioned before, that makes 140 years that we will not have to worry about oil. But why stop there? I would include Rhode Island and even Babson Park, Mass., as territories where deep testing should be done. I move that Mr. Babson, himself, drill a 15,000-foot test anywhere he selects and see what he finds out. In fact, I dare him to do it.

What is to be gained by waiting? Pioneers always take a chance. Look at Daniel Boone; look at Peggy Joyce; look at me—no, don't look until I get my nose powdered—now, look. Go ahead, Mr. Babson, and drill. I'll hold your coat.

The case can now be considered as proved for my position on this oil reserves question. To sum it all up and put an end once for all to these hysterical discussions, I shall quote from a little booklet that came to hand yesterday to one of my neighbors. He has moved away, so I get his mail.

This booklet, after examination, turns out to be an invitation to add to one's income substantially and at the same time earn an automobile merely by devoting one's spare time to booking orders for the Universal Two-pant Suit Co., Inc.

Industrial Notes

The Griscom-Russell Co., New York, has published a reference folder covering its line of condensers, heat exchangers, gas and water coolers, evaporators, oil heaters, separators and regulating devices adapted to oil refinery service. Copies may be obtained by writing the company at 90 West St.

* * *

The Superheater Co., New York, has appointed R.L. Ehmann as district manager of its industrial department at Pittsburgh, Pa. John R. LeValley, formerly manager of the Pittsburgh office, has been assigned to special duties with headquarters at New York.

* * *

Chicago Bridge & Iron Works, Chicago, builders of elevated steel tanks and storage tanks, has opened a sales office in the Union Trust Bldg., Cleveland, O. George S. Sangdahl is in charge of the new office, assisted by Alfred W. Warren.

Trade Marked Oil!

LETTERED Sample Oils, like those illustrated at the bottom of this page, have the decided advantage over plain bottles of never leaving your product unidentified.

When your trade-mark or name is blown in the glass, it is there to stay. It can't come off like a paper label and make an orphan of your sample.

Many large refiners feel that the moderate charge required to cover the making of lettered molds is really insignificant compared to the satisfaction of having their samples positively identified at all times and in all places.

Lettered Sample Oils, the same as the plain stock bottles, are available with ground and polished bottoms, if desired.

Illinois Glass Company
Established 1873
ALTON ILLINOIS

Branches in Principal Cities

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.
District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

New Oil Station Construction

Blackwell, Okla.—Marland Refining Co. erecting filling stations here and at Muskogee.

* * *

Findlay, O.—Fel-Oyle Co., with headquarters here, will build filling station at Fostoria, O.

* * *

Le Roy, Minn.—Standard Oil Co. of Indiana bought property for filling station.

* * *

West Palm Beach, Fla.—Palm Beach County Oil Co. building $30,000 filling station.

* * *

Chatfield, Minn.—Standard Oil Co. of Indiana seeking property for filling station.

* * *

Fayette, O.—Standard Oil Co. of Ohio purchased property for filling station.

* * *

Houghton, Mich.—H. S. Goodell, Independent marketer, to build service station.

* * *

Two Harbors, Minn.—A. L. Anderson erecting filling station.

* * *

Fremont, Neb.—J. McDonald to build filling station.

* * *

Willow, Neb.—Edwards Independent Oil Co. to build filling station at Willow Island.

* * *

Byersville, O.—Ohio Service Co. purchased property for filling station.

* * *

Burlington, Wis.—Standard Oil Co. of Indiana to build filling station.

* * *

Long Pine, Neb.—John Hartford of Palmer, Neb. erecting filling station at Long Pine.

* * *

Albany, Mo.—Collins Oil Co. purchased property for filling station.

* * *

Troy, O.—Troy Auto Supply Co. to erect filling station.

* * *

Bayfield, Wis.—Standard Oil Co. of Indiana to build filling station.

* * *

Waupaca, Wis.—Wadhams Oil Co. to build filling station next spring.

* * *

Milwaukee, Wis.—Bartles-Maguire Oil Co. building service station.

* * *

Wichita, Kan.—Standard Oil Co. of Indiana gets permit for filling station.

* * *

Little Falls, Minn.—Thomas Wagner to erect filling station.

* * *

Garnet, Kan.—Ottawa Petroleum Co. purchased property for filling station.

ON THE LAZY BENCH

Maybe One of the Pumps Called Him Up

A salesman at Lexington, had some numbers jotted down in his High Speed note book. His wife got hold of it and asked what the numbers were. He told her they were Roco numbers off gas pumps. His wife informed him that she didn't see why the company would have so many letters like "X" and "Y" after the numbers.

Moral: "Numbers should be heard and not seen."

◈ ◈ ◈

Howard Bennette, Director of the Western Petroleum Refiners' Association, Tulsa, is telling this one as being the latest from Florida.

One darky in meeting another allowed as how he had just come up from Florida and he made $100,000.

"You're dreaming" declared the second darky.

"You know that fine houn' dog of mine, don't you," cried the first darky—and the latter said that he did.

"Well," continued the first darky, I just traded that dog for two $50,000 cats."

◈ ◈ ◈

He's Not So Dumb

Old Spinster: "If girls were looked after properly at home they would not be looked after on the street. Do you follow me?"

Old Bachelor: "If I ever did, it was unintentional."

Magnolia Oil News

◈ ◈ ◈

"Poor ole Bill! 'E's so short-sighted 'e's working 'imself to death."

"Wot's 'is short sight got to do with it?"

"Well, 'e can't see when the boss ain't looking, so 'e 'as to keep on shoveling all the time."

The Booster

◈ ◈ ◈

A station salesman at Lexington, Ky., was overheard the other day selling a man on the merits of our "Agitation Gasoline." Aviation Gasoline doesn't "agitate" them, it "soothes" them.

Flash & Fire

◈ ◈ ◈

Sign at the First Tee Off—"Scotchmen. Please do not pick up lost balls until after they have stopped rolling."

Magnolia Oil News

◈ ◈ ◈

Literary Laura—to Athletic Dora—Don't you just love Kipling.

Athletic Dora—But I don't know how to Kipple.

Keep Her Worried, Maybe She'll Lay Scrambled Eggs

"Red" says Phil was running after a chicken with a kettle of boiling water.

"Red": "What are you running after that chicken for?"

Phil: "I want to give her a drink of this."

"Red": "Why, that is boiling water, man!"

Phil: "I know it is, but I want her to lay some hard-boiled eggs."

Flash & Fire

◈ ◈ ◈

That's Loyalty

Al had wired his wife that he would be home Friday night. At midnight he hadn't shown up. His wife became nervous and wired four of the Indiana branches asking if Al was staying there.

Along about six in the morning, Al came in home, clothes wet and muddy, having had to change tires and fix several punctures. Shortly afterwards, telegrams began to come in. They all read, "Yes, Al is staying here tonight."

Flash & Fire

* * *

A stout woman drove up to a filling station.

"I want two quarts of oil," she said.

"What kind, heavy?" asked the attendant.

"Say, young man, don't get fresh with me," was the indignant response.

◈ ◈ ◈

Cadet Say, waiter, will you please close that window?

Waiter: Is there a draft, sir?

Cadet: Well, not exactly, but it's the fourth time my steak has blown off the plate.

◈ ◈ ◈

Mr. Caterpillar: Hello, you little rascal, and where do you come from?

Mr. Flea: I just paid a call on an old dog and he's scratched my name off his calling list.

◈ ◈ ◈

"Stop, there is a principal at stake," shouted the cowboy, as he rushed upon the Indians about to burn up a school teacher.

Magnolia Oil News

◈ ◈ ◈

"Did you hear what Casey got for his tin wedding?"

"Sure, now, and Oi did not."

"Well, they do tell me he ban got tin days."

◈ ◈ ◈

"I just cleaned up thirty thousand bones on my land."

"Oil?"

"No, graveyard."

The Best Gift of All

THE *ideal* gift to oil salesmen is a gift that will create good-will, strengthen their morale, show their samples to best possible advantage, and boost their sales!

Any Oil Salesman would be tickled to death to get a convenient, efficient L-U-C-E Display Case on Christmas Day. It is a gift that he will be proud of, a gift that he can put to best possible use in 1926.

The L-U-C-E 301 Combination Portfolio and Display Case shown below will make every one of your Salesmen proud of the Firm he works for, and proud of the samples he carries. Their name may be embossed in Gold, if desired, without charge. Closed, this heavy, 5 oz. black cowhide case makes a favorable first impression on your customers.

Open, however, it is an efficient, attractive Display Case, containing 18 four ounce cut-bottom bottles with metal capped corks, and 6 one ounce squat grease jars. There are no trays to lift out, no metal clips to break the bottles. The flaps are lined with washable Keratol, and the samples backed against red plush. There is also an ample pocket for order book and literature. 301 Combination Folio complete..... **$24.00**

There is a 10% Cash Discount as well as special quantity discounts. Satisfaction is guaranteed.

Send for our new Catalog of L-U-C-E Gift Luggage

L-U-C-E

Builders of Sales Luggage

614 Delaware KANSAS CITY, MO.

Refinery Products Directory

Gasoline and Naphtha

ILLINOIS

58-60 U. S. Motor Gasoline
Indian Refining Company, Lawrenceville, Ill.

KANSAS

60-62 420-430 E. P. Gasoline
★Skelly Oil Co., El Dorado, Kansas

64-66 375 E. P. Gasoline
★Skelly Oil Co., El Dorado, Kansas

KENTUCKY

46-48 500 E. P. Naphtha
Great Southern Refining Co., Lexington, Ky.

50-52 450 E. P. Naphtha
Great Southern Refining Co., Lexington, Ky.

56-58 437 E. P. Gasoline
Great Southern Refining Co., Lexington, Ky.

58-60 Navy Gasoline
Great Southern Refining Co., Lexington, Ky.

58-60 Motor Gasoline
Great Southern Refining Co., Lexington, Ky.

64-66 400 E. P. Straight-run Gasoline
Ashland Refining Co., Ashland, Ky.
Great Southern Refining Co., Lexington, Ky.

68-70 Straight-run Gasoline
Ashland Refining Co., Ashland, Ky.

NORTH LOUISIANA

58-60 U. S. Motor Gasoline
Caddo Central Oil & Refining Co.,Shreveport,La.
Louisiana Oil Refg. Corp., Shreveport, La.
Shreveport Prod. & Refg. Co., Shreveport, La.

NORTH TEXAS

56-58 450 E. P. Gasoline
Sunshine Consolidated Oil Co., Wichita Falls, Tex.

58-60 U. S. Motor Gasoline
Sunshine Consolidated Oil Co., Wichita Falls, Tex.

58-60 450 E. P. Naphtha
Texhoma Oil & Refg. Co., Wichita Falls, Texas

60-62 400 E. P. Gasoline
Sunshine Consolidated Oil Co., Wichita Falls, Tex.

64-66 390 E. P. Gasoline
Sunshine Consolidated Oil Co., Wichita Falls, Tex.

64-66 375 E. P. Gasoline
Sunshine Consolidated Oil Co., Wichita Falls, Tex.

OKLAHOMA

50-52 450 E. P. Naphtha
Cameron Refg. Co., Ardmore, Okla.

56-58 450 E. P. Gasoline
★Bolene Refg. Co., Enid, Okla.
Cameron Refg. Co., Ardmore, Okla.

58-60 450 E. P. Gasoline
★Bolene Refg. Co., Enid, Okla.

58-60 U. S. Motor Gasoline
★Bolene Refining Co., Enid, Okla.
Cameron Refg. Co., Ardmore, Okla.
Shaffer Oil & Refg. Co., Tulsa, Okla.

60-62 400 E. P. Gasoline
Shaffer Oil & Refg. Co., Tulsa, Okla.

64-66 390 E. P. Gasoline
★Bolene Refg. Co., Enid, Okla.

64-66 375 E. P. Gasoline
Altitude Petroleum Co., Tulsa, Okla.
Shaffer Oil & Refg. Co., Tulsa, Okla.

68-70 350-360 E. P. Gasoline
Shaffer Oil & Refg Co., Tulsa, Okla.

68-70 360-375 E. P. Gasoline
Shaffer Oil & Refg. Co., Tulsa, Okla.

PENNSYLVANIA

50-52 Naphtha
Emery Mfg. Co., Bradford, Pa.

52-54 Naphtha
Lucinda Refining Co., Lucinda, Pa.

54-56 Naphtha
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

58-60 Gasoline
Carnegie Refg. Co., Carnegie, Pa.
★Continental Refining Co., Oil City, Pa.
Independent Refining Co., Oil City, Pa.

58-60 Straight-run Gasoline
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

60-62 Straight-run Gasoline
Bradford Oil Refg. Co., Bradford, Pa.
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

62-64 Straight-run Gasoline
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

64-66 Straight-run Gasoline
Bradford Oil Refg. Co., Bradford, Pa.
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

68-70 Straight-run Gasoline 350 E. P.
McKean County Refining Co., Bradford, Pa

68-70 Straight-run Gasoline 305-320 E. P.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.

70-72 Straight-run Gasoline 300-305 E. P.
Emery Mfg. Co., Bradford, Pa.
Lucinda Refining Co., Lucinda, Pa.
★Waverly Oil Works Co., Pittsburgh, Pa.

68-70 Blend, 425-430 E. P.
★Continental Refining Co., Oil City, Pa.

Special Naphtha

OKLAHOMA

V. M. & P. Naphtha
Anderson Prichard Oil Corp., Oklahoma City, Okla.

Cleaners Naphtha
Anderson Prichard Oil Corp., Oklahoma City, Okla.

Rubber Solvent
Anderson Prichard Oil Corp., Oklahoma City, Okla.

Turpentine Substitute
Anderson Prichard Oil Corp., Oklahoma City, Okla.

PENNSYLVANIA

Turpentine Substitute
★Waverly Oil Works Co., Pittsburgh, Pa.

Refineries all over the country are listed according to the products they are making today, or that they have in stock, or will make on reasonable demand.

Refineries shut down for any length of time and whose stocks of products are exhausted, are eliminated so far as possible.

It is requested, in justice to all, that all inquiries by telephone and telegraph be prepaid and this is recommended by the oil associations.

Methods of testing, approved by oil and scientific associations and the U. S. Bureau of Standards, are used. Grades of products listed, as well as names of refineries are revised each week.

Any marketers appearing in these columns are exclusive sales agents by contract with or ownership of refineries and the products listed after them are those made by those refineries.

Natural Gasoline

OKLAHOMA

Grade A
Altitude Petroleum Co., Tulsa, Okla.

Burning Oils

KENTUCKY

43-44 Water White Kerosene
Great Southern Refining Co., Lexington, Ky

43-45 Water White Kerosene
Ashland Refining Co., Ashland, Ky.

NORTH LOUISIANA

41-43 Water White Kerosene
Caddo Central Oil & Refining Co.,Shreveport,La
Louisiana Oil Refg. Corp., Shreveport, La.

NORTH TEXAS

41-43 Water White Kerosene
Sunshine Consolidated Oil Co., Wichita Falls, Tex.

OKLAHOMA

41-43 Water White Kerosene
Cameron Refg. Co., Ardmore, Okla.

42-44 Water White Kerosene
Altitude Petroleum Co., Tulsa, Okla.

44-46 Water White Kerosene
Anderson-Prichard Oil Corp., Oklahoma City Okla.

PENNSYLVANIA

45 Water White Kerosene
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Carnegie Refg. Co., Carnegie, Pa.
★Continental Refining Co., Oil City, Pa.
Emery Mfg. Co., Bradford, Pa.
★Empire Oil & Grease Co., Inc., Oil City, Pa.
Independent Refining Co., Oil City, Pa.
Lucinda Refining Co., Lucinda, Pa.
McKean County Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.

46 Water White Kerosene
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.

47 Water White Kerosene
★Empire Oil & Grease Co., Inc., Oil City, Pa.

REFINERY-TANK WAGON MARKETS

Western Refiners Feel Bullish As Markets Hold Strong

Staff Special

TULSA, Nov. 28

THE petroleum industry appears to have contracted a habit of staging a strong bull market every winter. Crude production slumps as the cold weather comes on and with an always greater demand in prospect for the coming year, prices are marked up in a wave of optimism.

The winter of 1925-1926 does not seem to be any exception to the rule. Optimism is prevalent throughout the Mid-Continent field and in other sections of the country as well.

Refiners in the Mid-Continent field were greeted Nov. 23, with the news that Pennsylvania crude had been advanced 25 cents per barrel. This information served to iron out all the soft spots in the market which had developed in the previous week of slow trading.

With the auspicious start of an eastern crude advance, the market was aided by brisk buying of motor fuels by the jobbing trade and a general circulation of inquiries for high gravity gasoline on the part of export buyers. Though interrupted by the Thanksgiving holiday, the market has been featured by activity and strong prices, with a tendency towards higher levels. Virtually all light fractions offered in the market are around a quarter of a cent per gallon higher than last week.

Burning oils and stove distillates have been quiet for several weeks. But fuel oil has improved its position and prices for December now being quoted are 5 to 10 cents per barrel above recent spot quotations.

Exporters Busy

For the past two weeks exporters do not seem to have been able to adjust their offers to the ideas of refiners. At the opening of the current week a number of buyers began to offer 12½ cents per gallon for 64-66, 375 end point gasoline for shipment over December, January and February.

During the previous week exporters had sought to buy at 12¼ cents and refiners had demanded 12½ cents. But the eastern crude advances and a tightening of Mid-Continent crude, particularly in north Texas caused refiners to ask 12¾ cents for December shipment. Today some are asking as high as 13 cents per gallon.

The fact that exporters were trying to buy for shipment over January and February as well as December was taken as a sign that overseas demand is expected to be good through the winter. But the price offered was considered by refiners to be too low to warrant their obligating much material over such an extended period.

The export situation was complicated as the week progressed when a number of carload marketers in Group 3 who ordinarily handle domestic business only began to offer 12⅝ cents per gallon for 64-66. In most instances these buyers stated that they were seeking the material for a north Texas refiner who was oversold and unable to deliver all of the export gasoline for which he had accepted November instructions.

In some quarters the opinion was advanced that export buyers were working through brokers to pick up small lots of 25 to 50 cars for December at a quarter of a cent over their current offerings in order to keep from pushing up the market too fast. It was thought improbable that any Texas refiners would be offering a quarter to a half cent above the price at which they had sold the material plus the freight equalization between north Texas and Group 3 when exporters are usually quite willing to give refiners a reasonable extension of shipping time.

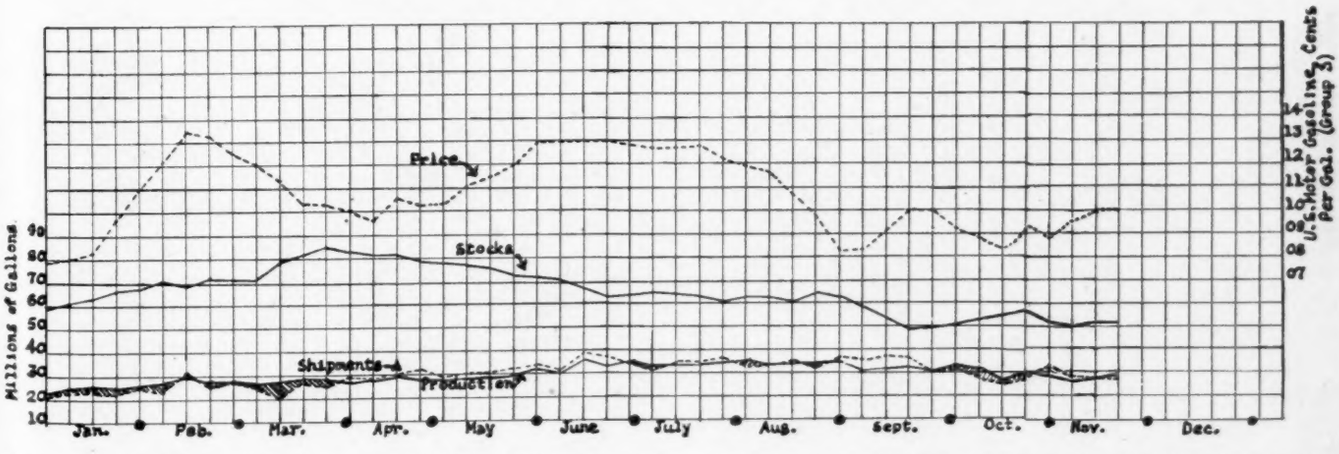
Texas Not Domestic Factor

In any case, north Texas gasoline has not been a material factor in domestic markets of the middle west during November, due to export movement to the Gulf. And current activity indicates that the bulk of the Texas production during December will move south to the seaboard rather than into the Mississippi valley.

Sometimes there is a tendency on the part of Oklahoma refiners to bewail the fact that Louisiana and north Texas groups have a better rate to the Gulf and consequently the first call on export business. It is clear to most students of the market, however, that the fate of all parts of the Mid-Continent is bound up together and that when the southern areas have export demand the

(Continued on page 77)

Barometer of the Mid-Continent Gasoline Market



Relation of the Group Three price of U. S. Motor Gasoline to Production, Shipments and Stocks of Gasoline at the 124 Mid-Continent plants reporting their figures weekly to National Petroleum News.

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Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
52-54 Naphtha	11¼-11½	11¼-11½	11¼-11½
54-56 Naphtha	11¾-12	11½-11¾	11½-11¾
58-60 Gasoline	12¼-12½	11¾-12	11¾-12
60-62 Straight-run gasoline	13 -13¼	12¼-12¾	12¼-12¾
62-64 Straight-run gasoline	13½-14	13¼-14	13¾-14
64-66 Straight-run gasoline	14½-15	14½-15	14½-15
68-70 Straight-run gas. 350-360 E.P.	-17	-16	-16
68-70 Straight-run gas. 305-320 E.P.	-19½	-19	-19
70-72 Straight-run gas. 300-305 E.P.	-20½	-20	-20
OKLAHOMA			
48-50 450 E. P. naphtha	- 9¼	9 - 9¼	8¾- 9
50-52 450 E. P. naphtha	- 9¼	9 - 9¼	8¾- 9
56-58 450 E. P. gasoline	- 9¾	- 9½	9¼- 9½
56-58 U. S. Motor gasoline	-10	- 9¾	- 9¾
58-60 U. S. Motor 437 E. P.	-10¼	-10	-10
60-62 400 E. P. gasoline	11¾-12	11½-11¾	11½-11⅝
64-66 375 E. P. gasoline	-12¾	-12½	12¼-12½
68-70 350-360 E. P. gasoline	13½-13¾	13½-13¾	13¼-13½
KANSAS*			
56-58 450 E. P. gasoline	10 -10¼	9¾-10	9¼- 9¾
58-60 U. S. Motor gasoline	10¼-10½	10¼-10½	10 -10¼
60-62 400 E. P. gasoline	12 -12¼	11¾-12	11¾-12
64-66 375 E. P. gasoline	13 -13¼	-13	12¾-13

*F. O. B. refinery, Kansas destination.

NORTH TEXAS			
48-52 450 E. P. naphtha	8¾- 9	8½- 8¾	8¼- 8¾
56-58 450 E. P. gasoline	- 9½	9¼- 9½	- 9¼
58-60 E. P. gasoline	- 9¾	9½- 9¾	- 9½
58-60 U. S. Motor gasoline	10 -10¼	-10	- 9¾
60-62 400 E. P. gasoline	-11¾	11⅝-11¾	-11¼
64-66 390 E. P. gasoline	12¼-12½	-12¼	-12¼
64-66 375 E. P. gasoline	12½-12¾	-12½	-12½
68-70 350-360 E. P. gasoline	-13½	-13¼	-13¼
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	10½-10¾	-10½	10 -10¼
ARKANSAS			
58-60 450 E. P. gasoline	-10¼	-10¼	9¾-10
58-60 U. S. Motor gasoline	-10½	-10½	10 -10¼
64-66 375 E. P. gasoline	12¾-13	12¾-13	12½-12¾
CALIFORNIA			
54-56 U. S. Motor gasoline	-11	-11	- 9
42-45 Engine distillate, 445-480 E.P.	6¼- 7	6¼- 7	6¼- 7

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND (F. O. B. Boston and Fall River)			
U. S. Motor gasoline	-11⅞	-11¾	-11¾

NATURAL GASOLINE

(Note: End point of all grades, not over 375°F.)

OKLAHOMA			
Grade Double A	-11¼	-11¼	11¼-11½
Grade A	-11¼	-11¼	11¼-11½
Grade Double B	10¼-10½	-10¼	10½-10¾
Grade B	10¼-10½	-10¼	10½-10¾
Grade C	9¼- 9½	- 9	9 - 9¼

NOTE—Specifications adopted by Ass'n of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH TEXAS			
*Grade Double A	-11¼	11 -11¼	-11½
*Grade A	-11¼	11 -11¼	-11½
*Grade Double B	10¼-10½	-10¼	-10¾
*Grade B	10¼-10½	-10¼	-10¾
*Grade C	9¼- 9½	- 9	9¼- 9½

*F. O. B. Breckenridge.

CALIFORNIA			
78-85 375 E. P.	12¼-13	13 -13½	12½-13½
PENNSYLVANIA			
68-70 Grav. 437 E. P.	14 -14½	13¼-13¾	13¼-13¾
64-66 Grav. 437 E. P.	13¾-14	13 -13½	13 -13½
60-62 Grav. 437 E. P.	12½-13	12 -12½	12 -12½
68-70 Grav. 420 E. P.	14 -14½	13½-14	13½-14

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	7½- 7¾	7¼- 7½	7¼- 7½
46 Water White Kerosene	7¾- 8¼	7¾- 8	7¾- 8
47 Water White Kerosene	8¼- 8¾	8 - 8¼	8 - 8¼
300 Burning Oil	8 - 8¼	- 8	8 - 8¼
OKLAHOMA			
41-43 Water White Kerosene	5 - 5⅛	4⅞- 5⅛	5 - 5⅛
42-44 Water White Kerosene	5½- 5⅝	5½- 5⅝	5½- 5⅝
KANSAS			
41-43 w. w. kerosene	5½- 5¾	5½- 5¾	5¼- 5¾
NORTH TEXAS			
41-43 Water White Kerosene	5 - 5¼	- 5	- 5
42-44 Water White Kerosene	5⅜- 5½	5⅜- 5½	- 5¼

NORTH LOUISIANA	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
41-43 Water White Kerosene	5½- 5¾	5½- 5¾	5¼- 5½
ARKANSAS			
41-43 Water White Kerosene	- 5¾	5½- 5¾	- 5½
CALIFORNIA			
40-42 Water White Kerosene	7½- 8	7½- 8	7½- 8
NEW ENGLAND			
40-43 Water White Kerosene	- 7¼	- 7¼	- 7

NEUTRAL OILS

PENNSYLVANIA (Viscosity at 70° F.)			
220 Vis. No. 3 Assoc. Filt.	-27	-26	-26
200 Vis. No. 3 Assoc. Filt.	24 -24¼	-23½	-23½
180 Vis. No. 3 Assoc. Filt.	21½-22	-21½	-21½
150 Vis. No. 3 Assoc. Filt.	17½-18	-17½	-17½
(Non-Viscous)			
34 Grav. 350-360 Flash	- 7½	- 7½	- 7½
36 Miners Neutrals 300-305 Flash	- 6½	- 6½	6½- 6¾
OKLAHOMA (Viscosity at 100°F.)			
100 Vis. No. 2 color	5½- 8	5½- 8	5½- 8
100 Vis. No. 2½-3 color	- 8¼	- 8¼	- 8¼
150 Vis. No. 3 color	9 -10	9 -10	9 -10
150 Vis. No. 4 color	- 8¾	- 8¾	- 8¾
180 Vis. No. 3 color	9¾-10¼	9¾-10¼	9¾-10¼
180 Vis. No. 4 color	9½-10½	9½-10½	9½-10½
180 Vis. No. 5 color	- 9¾	- 9¾	- 9¾
200 Vis. No. 3 color	10¾-11½	10¾-11½	10¾-11½
200 Vis. No. 4 color	-10½	-10½	-10½
200 Vis. No. 5 color	9½-10½	9½-10½	9½-10½
220 Vis. No. 3 color	-11¾	-11¾	-11¾
220 Vis. No. 4 color	12 -12¼	12 -12¼	12 -12¼
220 Vis. No. 5 color	-11¾	-11¾	-11¾
240 Vis. No. 3 color	-14	-14	-14
240 Vis. No. 4 color	-13½	-13½	-13½
240 Vis. No. 5 color	-13	-13	-13
280 Vis. No. 3 color	-16	-16	-16
280 Vis. No. 4 color	-15½	-15½	-15⅝
280 Vis. No. 5 color	-15	-15	-15
300 Vis. No. 5-6 color	17 -17½	17 -17½	17 -17⅝
GULF COASTAL (Viscosity at 100°F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	7½- 8	7½- 8	7½- 8
200 Vis. No. 3 Color Unfilt. Pale	12 -12½	12 -12½	12 -12½
300 Vis. No. 3 Color Unfilt. Pale	13½-14	13½-14	13½-14
500 Vis. No. 3½ Color Unfilt. Pale	15½-16	15½-16	15½-16
750 Vis. No. 4 Color Unfilt. Pale	20 -20½	20 -20½	20 -20½
200 Vis. No. 5½ Color Red Oil	10½-11	10½-11	10½-11
300 Vis. No. 5½ Color Red Oil	12½-13	12½-13	12½-13
500 Vis. No. 6 Color Red Oil	14 -14½	14 -14½	14 -14½
750 Vis. No. 6 Color Red Oil	18 -18½	18 -18½	18 -18½
CALIFORNIA (Viscosity at 100°F.)			
100 Vis. No. 2 color	13½-14½	13½-14½	13½-14½
100 Vis. No. 3 color	9 -10	9 -10	9 -10
200 Vis. No. 3 color	14½-15½	14½-15½	14½-15½
300 Vis. No. 3 color	14 -16	14 -16	14 -16
450 Vis. No. 3½ color	19½-20½	19½-20½	19½-20½
550 Vis. No. 3 color	21½-22½	21½-22½	21½-22½
600 Vis. No. 3½ color	23½-24½	23½-24½	23½-24½
100 Vis. No. 5 color	8 - 9	8 - 9	8 - 9
200 Vis. No. 5 color	13½-14½	13½-14½	13½-14½
300 Vis. No. 5 color	14 -15	14 -15	14 -15
400 Vis. No. 5 color	16 -17	16 -17	16 -17
500 Vis. No. 5 color	17 -18	17 -18	17 -18
600 Vis. No. 6 color	18 -19	18 -19	18 -19
700 Vis. No. 7 color	19½-20½	19½-20½	19½-20½

CYLINDER STOCKS

OKLAHOMA			
190-210 Vis. at 210° Bright Stock	30 -35	30 -35	30 -35
150-160 Vis. at 210° Bright Stock	27 -31	27 -31	27 -31
600 E Stock, 140-150 Vis. @ 210°	18 -20	18 -20	18 -20
600 Steam Refined Olive Green	8 -10	8 -10	8 -10
600 Steam Refined Dark Green	5¼- 6	5¼- 6	5¼- 6
Black Oil	5 - 5¼	5 - 5¼	5 - 5¼
PENNSYLVANIA (1-inch Immersion Test)			
600 Steam Refined	16½-17	15½-16	15½-16
635 Steam Refined	20½-21	20½-21	20 -20½
650 Steam Refined	22½-23	23 -23½	22½-23
600 Flash	26 -26½	25½-26	25½-26
600 Warren E	21¾-22	21¾-22	21¾-22
600 Oil City E	20½-21	20½-21	20½-21
600 Filtered D	26½-27	26 -26½	26 -26½
Cold Test Stocks (bright filtered)	39 -40	38 -39	-39
Cold Test Stock (dark filtered)	37 -38	26 -37	-37
Black Oil	- 8	- 8	- 8

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

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For years manufacturers strived to produce a temperature controller that could be operated by *mercury*. For it is an acknowledged fact that mercury is the most sensitive, the most accurate and the most durable, when it comes to measuring temperature. That's why nothing has ever replaced mercury for the clinical thermometers upon which human life often depends.

Now we have found a way to operate the time tested, rugged, Honeco Controller by mercury.

Honeco

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It makes possible the temperature control of numerous processes in refineries that it has been impossible to handle satisfactorily with gas or vapor tension controllers—especially processes where the bulb is periodically subjected to a temperature considerably in excess of the operating point. No other controller will endure such conditions without injuring its life and accuracy.

The Honeco is adapted for controlling temperatures from minus 40° to plus 900° F., permitting the use of *one* controller for one or a dozen conditions. Furnished with short or long range for operation at any point within this range. Its sensitivity is the same at any point of the range.

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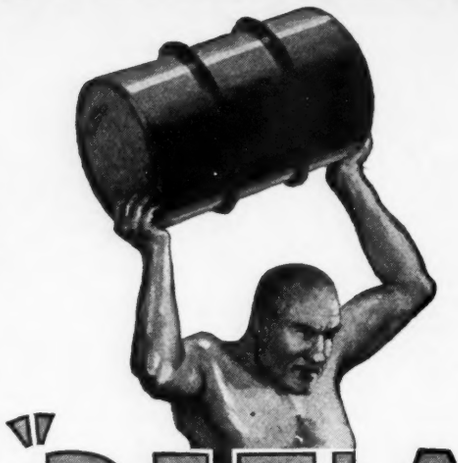

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There is a uniformity of manufacture that is standard, too. Defiance Barrels are *all* good barrels. Every barrel in a shipment can be depended on.

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Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
	(Per Pound New York)		
122-124 White Crude Scale..	5¾- 6	- 5¾	- 5¾
124-126 White Crude Scale..	6 - 6¼	- 6	- 6
OKLAHOMA			
	(Per Pound Group 3)		
124-126 White Crude Scale..	5¾- 5¼	5¾- 5¼	5¾- 5¼
CALIFORNIA			
White Crude Scale.....	7½- 8	7½- 8	7½- 8

(San Joaquin Valley, San Francisco 4c per bbl. more.)

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	- 6	- 5¾	- 5¾
30-34 Fuel Oil.....	- 5¾	- 5½	- 5½
28-30 Fuel Oil.....	- 5½	- 5¼	- 5¼
OKLAHOMA			
38-40 Straw distillate.....	4 - 4⅛	4 - 4⅛	4 - 4⅛
36-38 Straw distillate.....	- 3⅞	- 3⅞	- 3⅞
32-36 Gas oil.....	3½- 3¾	3½- 3¾	3½- 3¾
26-30 Fuel oil (Bbl.).....	1.30 -1.35	1.27½-1.30	1.27½-1.30
24-26 Fuel oil (Bbl.).....	1.25 -1.30	-1.25	-1.25
18-22 Fuel oil (Bbl.).....	1.20 -1.22½	1.17½-1.20	1.17½-1.20
KANSAS*			
38-40 Light straw distillate..	4⅛- 4¼	4⅛- 4¼	4⅛- 4¼
36-38 Light straw distillate..	- 4	- 4	- 4
32-36 gas oil.....	3¾- 3⅞	3¾- 3⅞	3¾- 3⅞
18-22 Fuel oil.....	1.30 -1.35	1.30 -1.35	1.30 -1.35
24-26 Fuel oil.....	1.35 -1.40	1.35 -1.40	1.35 -1.37½

*F. O. B. refinery, Kansas destination.

NORTH TEXAS	Prices Nov. 30	Prices Nov. 23	Prices Nov. 16
36-40 Straw Distillate.....	3¾- 4	3¾- 4	3¾- 4
32-36 Gas Oil (Gal.).....	3½- 3⅝	3¾- 3½	3¾- 3½
24-26 Fuel, per bbl.....	1.35-1.40	1 30 -1.32½	1.27½-1.30
GULF COASTAL			
Fuel.....	1.45 -1.50	1.45 -1.50	1.45 -1.50
Gas Oil.....	4½- 4¾	4½- 4¾	4½- 4¾
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)...	- 3¾	- 3¾	- 3¾
18-22 Fuel Oil (Bbl).....	-1.00	1.00 -1.05	1.00 -1.05
ARKANSAS			
32-36 Gas Oil.....	- 3¾	- 3¾	- 3¾
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.).....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.).....	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15

*Prices at southern California points. Prices at San Francisco and other coast points 5c per bbl. higher. San Joaquin Valley 10c per bbl. less.

NEW ENGLAND (F. O. B. Boston and Fall River)			
30-32 gas oil (gal.).....	- 5¾	- 5¼	- 5¾
Fuel Oil (Bunker C) bbl.....	-1.70	-1.65	-1.67

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 73)

northern sections have less competition in the domestic market and all areas prosper.

Despite the fact that jobbers are generally committed to a hand to mouth buying policy there has been some tendency within the past few days for the domestic trade to ask for quotations on gasoline for shipment over all of December. The size of inquiries does not lead refiners to believe that their customers plan to store gasoline during the month for spring consumption, but it does indicate that the trade is coming to the view that gasoline may be higher before the year closes than it is today.

December Quotations

Earlier in the week some sales of 58-60 U. S. Motor gasoline for shipment over December were made by refiners at 10¼ cents per gallon direct to the trade. But as the market gathered strength the prices generally went up to 10⅜ cents and finally to 10½. Several refiners reported sales today of 10 to 20 cars at 10½ cents and indicated that they will not accept many orders at that figure.

High gravity gasolines for domestic shipment have been a little softer than for export. It has been possible until today to find some 64-66, 375 end point material for movement north at 12½ cents per gallon and odd cars of 60-62, 400 end point at 11½ cents. With U. S. Motor gasoline stepping up another quarter of a cent to 10¼, refiners are now generally asking 11¾ and 12¾ for domestic high test goods.

There is little or no interest in 56-58, 450 end point gasoline except in the case of a few jobbers where tank wagon prices are still so low that there is no margin of profit. Production of the high end point goods is at a minimum.

Indications of Bull Market

There are numerous indications of a possible recurrence of a strong winter market for the entire industry as mentioned above. Major distributors of petroleum products have been leveling up their tank wagon schedules in all parts of the country. At Omaha two advances have raised gasoline 4¼ cents per gallon. The Standard Oil Co. of Indiana has made some 50 or 60 changes in its schedule eliminating low spots. Magnolia Petroleum Co. and the Standard Oil Co. of Louisiana have made similar changes in their tank wagon and retail prices.

Tightness of the crude market, particularly in north Texas, is indicated by the recent posting of the Texhoma Oil & Refining Co. at Wichita Falls. The new Texhoma schedule runs as high as 22 cents per barrel premium on crude of 32 to 32.9 gravity but scales down to $2.35 per barrel on 43 to 43.9 gravity crude which is the same price as that posted by the Prairie Oil & Gas Co.

It is considered significant in some quarters that Humble Oil & Refining Co., Magnolia Petroleum Co. and the Texas Co. have met the Prairie schedule in full in Texas. This is thought to be a leveling-up process on crude similar to that which has been taking place in the tank wagon markets.

Natural Gasoline Steady

The past week has seen natural gasoline markets steady themselves after being quite weak earlier in the month. Grade A gasoline has been selling at 11¼ cents per gallon in Oklahoma and Texas fields throughout the week. Grade C which has been weaker than other grades, has regained some of its lost ground. A week ago some grade C was selling at as low as 8¾ cents per gallon while today the best prices ob-

All prices and market information printed herein have been gathered by the staff of National Petroleum News from reliable sources and so far as can be ascertained thoroughly represent the going market as defined for each product on the date given for those particular prices. Both buyers and sellers have been checked in the gathering of this information and actual sales studied.

These prices and this information are subject at all times to correction for errors. Anyone having knowledge of any facts which would indicate anything different from the information which is given, is especially urged to send in those facts to the head office of National Petroleum News at once, or take them up with the nearest representative. All such facts will be promptly and thoroughly investigated.

The staff of National Petroleum News is cognizant of the fact that this market information has come to have a high standing in the industry. It wants to not only maintain that standing, but to improve it and to that end, invites the co-operation of the entire oil industry.

tainable appears to be around 9¼ cents per gallon. Much of the strength of the natural gasoline market has been due to the activity of exporters.

Demand for stove distillate has been slack through the pleasant November weather but refiners have not been inclined to shade their prices to stimulate orders. The 38-40 light straw grade is steady at 4 to 4⅛ cents with 36-38 at 3⅞ cents per gallon. Kerosene movement has continued to be excellent at 5 to 5⅝ cents per gallon.

For more than a month, Mid-Continent refiners have been drawing heavily on their stocks of gas and fuel oil. The 124 plants which report weekly on their operations to National Petroleum News have reduced their stocks more than 21,000,000 gallons during the four weeks ending Nov. 20. Shipments from the group of plants have averaged above 40,000,000 gallons per week for over a month. Some of the drain on stocks has been due to the lower level of crude runs which has been maintained by refiners.

In addition to the reduction in storage reserves, the coal strike situation has added strength to the market during the past week. As far as can be learned the strike of anthracite miners has not actually increased consumption of fuel oil to any large extent. The hard coal is largely used in home heating and has been replaced by soft coal as is evidenced by higher soft coal prices and resumption of activity at mines which have been closed down.

Ultimately the increase in soft coal prices will benefit fuel oil if the strike continues, due to the close competition between coal and oil in some industries which are prepared to change quickly and at low cost from one fuel to the other.

For delivery over December, refiners are quoting as high as $1.35 per barrel on 24-26 fuel. This compares with spot prices of $1.25 to $1.30 per barrel. Futures of other grades of fuel are in proportion. For spot shipment 18-22 fuel is selling at $1.20 to $1.22½ and 26-30 at $1.30 to $1.35 per barrel.

Lubricating oils are unchanged in price and are reported moving in good shape. Some of the refiners in Group 3 are developing an outlet through the Gulf to export for their lubes. One Oklahoma plant for example is now averaging a quarter of a million gallons per month shipped in barrels out of New Orleans. This business is doing much to stabilize prices. Steam refined cylinder stocks are somewhat stronger and wax is well sold up to the first of the year.

Heavy Lube Demand Good

HOUSTON, Nov. 30.—Manufacturers of Gulf Coastal zero cold test lubricants report a general strengthening of the market, although no advance has been made in prices. Demand is greatest for low viscosity oils, especially for 200 viscosity pale oil. Inquiries and sales throughout the list are reported very good.

Prices Turn Upward In Chicago Without Improved Demand

Staff Special

CHICAGO, Nov. 28

AN UNEXPECTED upward turn on Friday, following Thanksgiving holiday, featured the Chicago resale market this week. Ordinarily the Chicago market develops a weak spot in the last five days of the calendar month, when marketers start to clean up their time purchases giving shipping instructions to their refiners, but not so this time. At least such a soft period lasted only part of a day.

All week, U. S. Motor gasoline had held fairly firm at 10 cents and on Friday morning word from Tulsa was that no more 10-cent gasoline could be depended upon. By Saturday noon the bottom quotation was 10¼ cents and some sales agencies were asking 10½ cents and actually booking orders. High test gasolines were in good demand and 64-66 was 12½ cents for 390 e.p. and 12¾ cents for 375 e.p. export material.

Large companies' books show that November business has been bigger than November last year, probably due to a larger number of cars operating, for the weather has been less pleasant and roads in no better condition than last year this time. Orders have been small but numerous which, to the refiners, indicates jobbers have been buying hand to mouth and refiners seem convinced their stocks are low enough to justify their contention that 10 cents is bottom on U. S. Motor.

Refined oil prices advanced slowly over the week. They have not had a strong demand but a fair business has been done in 42-44. The prices have been maintained in the field, however, for the average price for the week has been 5 cents on 41-43 and the better material has sagged a little from its peak of 5¾ cents reached early in the week.

PLATT'S
OILGRAM
Petroleum Markets-Every Day

Market Uncertainty!

WHAT is the oil business going to do in the next several weeks?

With Pennsylvania crude up 25c shows the crude market is tighter. Gasoline in the west is selling around 10 cents. Some say it is justified. Others say it is not.

Some say Mid-Continent crude will go up. Others say it will not. And another flare-up in the Garber field, makes the guessing really good.

There is just enough uncertainty in the market to make it imperative for you to know just which direction prices are moving DAILY.

Fortify yourself against these uncertain market conditions with PLATT'S OILGRAM issued every day from Tulsa, Chicago and Cleveland. Send for your service to the nearest mailing point.

TULSA—608 Bank of Commerce Bldg.
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Week's Price Changes Tank Wagon Market

Standard of New York.—T.w. and s.s. advanced 1 cent, Rochester, to 15 cents and 19 cents respectively, **Nov. 25.**

Standards of Nebraska.—T.w. and s.s. advanced 2 cents, Omaha, to 16¼ cents and 18¼ cents respectively, **Nov. 24.**

Magnolia Petroleum.—T.w. and s.s. advanced 1 cent, Little Rock, to 17.5 cents and 20.5 cents, respectively, **Nov. 20.** T.w. and s.s. prices reduced 1 cent at those Oklahoma points which were advanced 1 cent on Nov. 23, **Nov. 26.** This brings t.w. prices at Tulsa, Muskogee and Oklahoma City to 17 cent level, s.s. to 20 cents.

Standard of New York.—T.w. and s.s. prices advance 1 cent, Boston, to 17 cents and 21 cents, Dec. 1. These new prices are not shown in the tank wagon table in this week's issue, the advance is effective on Dec. 1, and prices in the table are those in effect on Nov. 30.

Magnolia Petroleum—T. w. and s. s. prices at San Antonio reduced 3 cents, to 13 cents and 15 cents, respectively, **Nov. 27.**

* * *

Kerosene Changes

Standard of New York.—Advanced ½ cent in New York state and New England, **Nov. 24.**

Standard of Ohio.—Advanced 1 cent, through Ohio, to 14 cents, **Nov. 27.**

Magnolia Petroleum—Muskogee reduced 1 cent, to 10 cents, **Nov. 27.**

SOMERSET, TEX.—The Pioneer Oil & Refining Co. has added a new 350-barrel still to its plant here.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers.

These Prices in Effect November 30, 1925

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N. J.	15	0	15	*	13.5
Newark, N. J.	15	0	15	17	13.5
Annapolis, Md.	15	2	17	*	12.5
Baltimore, Md.	15	2	17	20	10
Cumberland, Md.	15	2	17	20	13.5
Washington D. C.	15	2	17	20	12.5
Danville, Va.	15	3	18	*	13.5
Norfolk, Va.	15	3	18	21	13.5
Richmond, Va.	15	3	18	21	13.5
Roanoke, Va.	15	3	18	21	13.5
Petersburg, Va.	15	3	18	*	13.5
Williamsburg, Va.	15	3	18	*	13.5
Charleston, W. Va.	15	3½	18.5	21.5	13.5
Clarksburg, W. Va.	15	3½	18.5	21.5	13.5
Keyser, W. Va.	15	3½	18.5	*	13.5
Parkersburg, W. Va.	15	3½	18.5	21.5	13.5
Wheeling, W. Va.	15	3½	18.5	21.5	13.5
Charlotte, N. C.	15	4	19	22	13.5
Hickory, N. C.	15	4	19	*	13.5
High Point, N. C.	15	4	19	*	13.5
Mt. Airy, N.C.	15	4	19	*	13.5
Salisbury, N. C.	15	4	19	*	13.5
Charleston, S. C.	15	5	20	23	13.5
Columbia, S. C.	15	5	20	23	13.5

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	17	0	17	21	14.5
Albany, N. Y.	†16	0	†16	†18	14.5
Buffalo, N. Y.	14	0	14	17	14.5
Rochester, N. Y.	†15	0	†15	†19	14.5
Syracuse, N. Y.	16	0	16	18	13.5
Boston, Mass.	16	0	16	20	12.5
Augusta, Me.	16	3	19	22	14.5
Manchester, N. H.	16	2	18	22	14.5
Burlington, Vt.	16	2	18	21.5	14.5

*In steel barrels.
†At Rochester and Albany, Standard sells two grades of gasoline, the above price applying to its Socony grade, and another grade being sold 2c below this price.

ATLANTIC REFINING

Pittsburgh, Pa.	17	0	17	*22	14
Philadelphia, Pa.	17	0	17	*22	14
Allentown, Pa.	17	0	17	*22	14
Erie, Pa.	17	0	17	*22	14
Scranton, Pa.	17	0	17	*22	14
Altoona, Pa.	17	0	17	*22	14
Dover, Del.	17	2	19	22	14
Wilmington, Del.	17	2	19	22	14
Providence, R. I.	16	1	17	20	13
Springfield, Mass.	16	0	16	19	13
Worcester, Mass.	16	0	16	19	13
Hartford, Conn.	16	2	18	21	12
New Haven, Conn.	16	2	18	21	13
Boston, Mass.	16	0	16	19	13

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	15	3	18	21	14
Louisville, Ky.	17	3	20	23	12
Covington, Ky.	16	3	19	22	14
Clarksdale, Miss.	16	3	19	22	12
Jackson, Miss.	16	3	19	22	11
Natchez, Miss.	15.5	3	18.5	21.5	11.5
Vicksburg, Miss.	15.5	3	18.5	21.5	11.5
Birmingham, Ala.	17	2	19	22	14.5
Mobile, Ala.	16	2	18	21	11
Montgomery, Ala*	18	2	20	23	15.5
Atlanta, Ga.	17.5	3½	21	24	13
Augusta, Ga.	18.5	3½	22	25	14.5
Macon, Ga.	18.5	3½	22	25	13.5
Savannah, Ga.	13.5	3½	17	20	13
Jacksonville, Fla.	16	4	20	23	13
Miami, Fla.	18	4	22	25	14.5
Tampa, Fla.	16	4	20	23	13
Pensacola, Fla.	16	4	20	23	13.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

S. O. INDIANA

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Chicago, Ill.	†16	0	†16	18	11
Decatur, Ill.	11	0	11	13	11.5
E. St. Louis, Ill.	15.1	0	15.1	17.35	10.6
Joliet, Ill.	16.4	0	16.4	18.4	11.7
Peoria, Ill.	10.5	0	10.5	12.5	11.5
Quincy, Ill.	16.2	0	16.2	18.2	11.3
Indianapolis, Ind.	16.2	3	19.2	21.2	11.7
Evansville, Ind.	15	3	18	20	11.5
South Bend, Ind.	16.4	3	19.4	21.4	11.9
Detroit, Mich.	16.8	2	18.8	20.8	12.2
Grand Rapids, Mich.	16.7	2	18.7	20.7	12.1
Saginaw, Mich.	16.9	2	18.9	20.9	12.3
Madison, Wis.	16.3	2	18.3	20.3	11.5
Milwaukee, Wis.	16.1	2	18.1	20.1	11.3
La Crosse, Wis.	17.2	2	19.2	21.2	12.4
Minneapolis, Minn.	13.2	2	15.2	17.2	12.6
Duluth, Minn.	13.5	2	15.5	17.5	12.6
Mankato, Minn.	17.1	2	19.1	21.1	12.4
Des Moines, Iowa	13.5	2	15.5	17.5	11.9
Davenport, Iowa	16.5	2	18.5	20.5	11.9
Sioux City, Iowa	16	2	18	20	11.5
Mason City, Ia.	16.5	2	18.5	20.5	11.9
St. Louis, Mo.	**15.6	2	17.6	19.9	11
Kansas City, Mo.	††15.9	2	17.9	19.9	10.3
St. Joseph, Mo.	**16	2	18	20	10.9
Fargo, N. D.	18.9	1	19.9	21.9	14.6
Grand Forks, N. D.	19.2	1	20.2	22.2	14.9
Minot, N. D.	18.9	1	19.9	21.9	14.6
Pierre, S. D.	18	3	21	*	13.1
Huron, S. D.	13	3	16	18	13.1
Wichita, Kans.	8.8	2	10.8	12.8	10.8
Bartlesville, Okla.	13.9	3	16.9	18.9	9.9

†Dumps of 100 or more gallons at 15c per gallon.
*S. O. Indiana does not operate station.
**Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	17	2	19	*	12.25
Omaha, Neb.	14.25	2	16.25	18.25	11.5
McCook	17.75	2	19.75	21.75	13
Norfolk	16.75	2	18.75	20.75	12
North Platte	17.75	2	19.75	21.75	12.75
Scottsbluff	17.25	2	19.25	21.25	12.25

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	16	2	18	20	14.5
Pueblo, Colo.	16	2	18	20	14.5
Casper, Wyo.	17	2½	19.5	21.5	13
Cheyenne, Wyo.	17	2½	19.5	21.5	14.5
Butte, Mont.	19	2	21	21	16
Helena, Mont.	21	2	23	23	17
Salt Lake City, Utah.	18.5	3½	22	24	18
Boise, Ida.	20	3	23	23	20
Albuquerque, N.M.	20.5	3	23.5	26.5	16.5

S. O. CALIFORNIA

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	10.5	2	12.5	16.5	15.5
Fresno, Cal.	14.5	2	16.5	20.5	17.5
San Francisco, Cal.	14	2	16	20	15.5
Reno, Nev.	17.5	4	21.5	25.5	19
Portland, Ore.	14	3	17	21	16.5
Seattle, Wash.	14	2	16	20	16.5
Spokane, Wash.	18	2	20	24	20.5
Tacoma, Wash.	14	2	16	20	16.5

S. O. LOUISIANA

Little Rock, Ark.	13.5	4	17.5	20.5	10.5
Alexandria, La.	14	2	16	19	11.5
Baton Rouge, La.	13	2	15	18	10
Lake Charles, La.	14.5	2	16.5	19.5	11.5
New Orleans, La.	*14.5	2	16.5	19.5	10.5
Shreveport, La.	13	2	15	18	10.5
Lafayette, La.	14	2	16	19	11
Bristol, Tenn.	14.5	3	17.5	20.5	13
Chattanooga, Tenn.	13	3	16	19	13
Knoxville, Tenn.	14	3	17	20	13.5
Nashville, Tenn.	13	3	16	19	13
Memphis, Tenn.	12	3	15	18	12.5

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
All Ohio points	16	2	18	20	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	14	3	17	20	10
Oklahoma City	14	3	17	20	12
Tulsa, Okla.	14	3	17	20	12
Fort Smith, Ark.	14	4	18	21	11
Little Rock, Ark.	13.5	4	17.5	20.5	10
Texarkana, Ark*	15	4	19	23	12.5
Dallas, Tex.	16	1	17	19	11
El Paso, Tex.	17	1	18	19	13
Fort Worth, Tex.	13	1	14	16	10
Houston, Tex.	16	1	17	19	12
San Antonio, Tex.	12	1	13	15	10

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

V. M. & P. NAPHTHA

Changes ordinarily occur coincident with gasoline)

	Oleum Spirits	V.M.& P. Naphtha	Cleaners Naphtha
Chicago	18	20	20
Detroit	19.2	21.7	21.7
Kansas City	18.2	20.2	20.2
Milwaukee	18.2	22.7*	22.7*
Minneapolis	19.5	24*	24*
St. Louis	17.4	19.9	21.2
New York		17	.....

*Including state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Toronto	23.5	3	26.5	30	20
Ottawa	24.5	3	27.5	31	21
Cochrane	28.5	3	31.5	35	24.5
Ft. William	27.5	3	30.5	34	22.5

MANITOBA

Winnipeg	27.5	3	30.5	34	22.5

SASKATCHEWAN

Regina	30.5	0	30.5	34	25.5

ALBERTA

Edmonton	29.5	2	31.5	37	27.5
Calgary	29.5	2	31.5	35	25.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	23

QUEBEC

Montreal	23.5	3	26.5	30	20
Quebec City	25.5	3	28.5	31	22
Three Rivers	25.5	3	28.5	32	22

NEW BRUNSWICK

St. John	26.5	0	26.5	30	25
Moncton	26.5	0	26.5	30	25

NOVA SCOTIA

Halifax	26.5	0	26.5	30	25
Sydney	28.5	0	28.5	32	25

PRINCE EDWARD ISLAND

Charlottetown	26.5	2	28.5	33	25

Note: In districts surrounding these points 1c additional is added to city price.

Complete Export Markets

New York Gulf Coast California

Export Markets On All Products Except Wax is Firmer

By Special Correspondent
NEW YORK, Nov. 30

GASOLINE resumed the upward swing last week. The advance in Pennsylvania crude along with higher Mid-Continent gasoline has stimulated European demand, and it is understood that one of the leading Gulf refiners has booked three bulk cargoes but details were withheld.

The belief prevails in local circles that Pennsylvania crude will be marked up again soon, and buyers of Pennsylvania products are more anxious to cover their immediate future requirements.

Wax was about the only weak spot in the entire list. Stocks are plentiful both at the Gulf and locally. Export buyers are out of the market. U. S. Motor gasoline, has been marked up ¼ cent at Atlantic seaboard refiners and 11½ cents is now demanded. Gas oil was also higher both at the Gulf and locally.

There was an inquiry in the New York market from the United Kingdom for 45,000 barrels of U. S. Motor 64 gravity and prime and water white kerosene, which two of the big Independents were working on. This is still pending. A leading Philadelphia refiner recently sold a cargo of 45,000 barrels of U. S. Motor, 64 gravity and prime and water white kerosene. It is understood that the 64 gravity sold at 14 cents, and the kerosene at 6¼ and 7¼ cents respectively but the U. S. Motor price was not divulged. This cargo will be cleared during January.

Cased U. S. Motor is in better demand. A Japanese buyer is reported in the market for 40,000 cases for January-forward shipment. There is a heavy consignment movement to the West Coast of Africa and prices were well held at present levels.

Export Gasoline—Gulf Ports

The Gulf market was also stronger. Although virtually all of the big refiners were demanding 11 cents for U. S. Motor and 14¾ to 15 cents for 64 gravity, one of the leading refiners was still quoting 10¾ for the former and 13¾ cents for the latter. This concern contracted with Texas and Group 3 refiners for gasoline at a cent a gallon below its posted Gulf price. Competitors feel that it is very doubtful if they would actually sell any sizable quantities at these prices.

There was a report current that one of the leading refiners had booked three cargoes of prime and water white kerosene and U. S. Motor and 64 gravity gasoline for January shipment to France but this concern is not quoting on gasoline beyond 60 days ahead. Cased gasoline was still quoted at $2.25 a case for Motor and $2.55 for 64 gravity but an advance is expected soon.

Domestic Gasoline—New York

Locally, the domestic market for gasoline was appreciably firmer, with refiners asking 12½ cents a gallon, delivered to the trade in tank cars. Jobbing demand is better than anticipated, and there is more confidence shown. Rumors of an impending cut in the tank wagon price have been dispelled. At local refineries the price is 11½ cents a gallon, while the price in steel barrels to garages is quoted at 17 cents a gallon, although in some sections it is retailing at 17 cents a gallon.

Export Kerosene—New York

The Standard Oil Co. of New Jersey advanced kerosene in cases for export ¼ cent a gallon, on Wednesday, and water white is now held at 18.65 cents, while Standard white is 17.65 cents a gallon. The export demand for cased kerosene is better. It is reported that a large Independent sold 50,000 cases for January-forward shipment to Australasia. South American buyers were less active. There is a good contract movement to the Near East.

A Scandinavian buyer was inquiring for a cargo of 56,000 barrels of prime and water white kerosene along with U. S. Motor gasoline, but this failed to materialize. Most of the big local refiners were demanding 8 to 8¼ cents a gallon for water white at the refineries.

Export Kerosene—Gulf Ports

Gulf kerosene was also higher, and as the week closed prime was held at 6¼ to 6½ cents and water at 7¼ to 7½ cents. Stocks are small, and with export buyers clamoring for supplies, the trade looks for further advances soon. The demand from French buyers has been unusually good the past month or so.

Cased prime was marked up 5 cents to $1.65 a case, and water white to $1.75 in cargo lots. A Brazilian buyer was credited with purchase of 10,000 cases for nearby shipment. There was an inquiry from China for 35,000 cases which has not yet materialized.

Domestic Kerosene—New York

Locally domestic demand for kerosene is more active and the price of water white delivered to the trade in tank cars was firmly held at 9 to 9¼ cents a gallon. Jobbing demand is heavier, reflecting increased consumption. The tank wagon price was marked up ½ cent a gallon on Tuesday by the Standard Oil Co. of New Jersey. This company is now quoting 14½ cents a gallon. At the refineries the price ranges from 8 to 8¼ cents a gallon. Stocks are somewhat depleted. There is no pressure to sell.

Fuel Oils—New York

Most of the fuel oils were stronger. Bunker C is well held at $1.65 a barrel at the local refineries. Export demand is lagging, but domestic consumption continues to soar, due to the possibility of a coal shortage. Diesel oil is moving in a larger way to $1.99½ a barrel, refinery, while furnace oil was very scarce at 6¼ cents a gallon, refinery.

Fuel Oils—Gulf Ports

In the Gulf section Bunker oil was well established at $1.50 to $1.60 a barrel, according to quantity and seller. The export inquiry was fair, but no sales were recorded. At Tampico, Bunker C was held at $1.40 a barrel including taxes while heavy Panuco crude was quoted at $1.20 a barrel, taxes to be added.

Wax—New York

Waxes slumped badly last week. New York exporters reported a dearth of foreign orders. One seller reported making offerings to four European buyers without even receiving a counter bid from any of them. As the week closed, white crude scale 122-124 A.m.p. was offered around at 5⅝ cents a pound while 124-126 A.m.p. was held at 5¾ cents. Yellow crude scale was quoted at 5½ cents while match 105-108 A.m.p. was held at 6 cents a pound. Fully refined grades, although easier, failed to register any declines.

Wax—Gulf Ports

These was plenty of white crude scale wax available in the New Orleans market as the week closed. For 124-126 A.m.p. the price was 5½ cents a pound. Fully refined grades were easier. For 125-127 A.m.p. the price was 6 cents; 128-130 A.m.p. 6⅛ cents; 133-135 A.m.p. 6½ cents and 135-137 A.m.p 7 cents a pound.

Lubricating Oils—New York

Export demand for Pennsylvania lubricating oils was sluggish. The advance in

Pennsylvania crude appeared to have been discounted, and no important price readjustments were announced. For Pennsylvania 600 s.r. in barrels, New York, the price was 24 to 24½ cents a gallon, against 23½ to 24½ cents the preceding period. Neutral oils marked time the greater part of the week. Paraffine and black oils were quiet.

Lubricating Oils—Gulf Ports

In the Gulf section, zero cold test oils are in growing demand but no price adjustments were reported. French and German buyers are reported to be showing more interest. A United Kingdom buyer was inquiring for a cargo of 35,000 barrels of assorted lubricating oils for January shipment and it is understood that one of the big Independents is working on this. Western 600 s.r. is reported in better demand. However, the majority of European buyers appear to be content with hand-to-mouth buying for the present.

Gas Oil

Gas oil, at New York harbor refineries was marked up ¼ cent a gallon at the start of the week, and for 36-40 the asking price was held at 5¼ cents a gallon while 28-34 was quoted at 5 cents, refinery. Domestic consumption is gaining, and refiners are showing more confidence in the future. No bulk export movements were disclosed. In the Gulf section the tendency was also upwards, prices being ¼ cent higher for the week with 26-28 transparent held at 4⅝ cents and 32 plus dark at 4⅜ cents a gallon.

Petrolatum price was unchanged from the preceding week. Export demand was very light, while domestic buying was for routine requirements. Stocks on hand are fair. Medicinal oils were dull at unchanged prices.

AMARILLO, TEX.—The Amarillo Refining Co. is completing the Amarillo building which will be the headquarters of the oil fraternity at Amarillo. Many of the local oil companies are moving into the new building, which is now ready for occupacy, reports E. L. Moon, manager.

Pacific Export Market

Cargo lots quotations at seaboard, Los Angeles)

	Nov. 30	Nov. 23
Gasoline, U. S. Motor— 54°—56°	7½- 9	7½- 9
Gasoline—U. S. Motor blends and special cuts	8 - 9½	8 - 9½
Gas Oil, 24°—30°B. per bbl	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl	$1.00	$1.00
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	.05 -.05½	.05 -.05½
Cased Goods		
Gasoline, U. S. Motor	$2.25	$2.25
Kerosene, W. W. 40°—42° B per case, flash test 125-150	$1.40-1.50	$1.40-1.50

New York Export Market

Prices below are an index to the export markets as of the dates given. In many cases they are actual sales prices. So many factors enter into the price in export transactions that an actual market price governing the bulk of transactions cannot be given.

GASOLINE	Nov. 30	Nov. 23
U. S. Motor, Bulk, Ref.	11½	-11½
KEROSENE		
45-150 W. W. Bulk Ref.	.08 -.08¼	-.08
GAS OIL		
36-40, Bulk Refinery	-.05¼	-.05
28-34, Bulk Ref.	-.05	-.04¾
BUNKER OIL		
Grade C, Ref. Bulk	1.65	-1.65
Diesel Oil Ref. Bulk	1.99½	-1.99½

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (bbls.) 1 inch Immersion Test		
Penna. Filtered D 600	.32	-.32
Penna. Filtered E 600	.29	-.29
Unfiltered 600 s. r.	.24	.23½-.24
Unfiltered 650 s. r.	.30½	-.30½
600 flash s. r.	.33	-.33
Penna. 630 Flash	.42	-.42

RED PARAFFIN (bbls.)		
300 vis. at 100°F. No. 5	.21½	-.21½
250 vis. at 100° F. No. 5	.20½	-.20½
High Viscosity Paraffin No. 5	.26	-.26
.885 s.g. pale 100 vis. at 100°F.	.15 -.16½	.14½-.15

Neutral Oils (bbls.)		
200 vis. at 70° F. Pale No. 3	-.31½	-.31½
180 Pale .70 No. 3	-.29¼	-.29¼
150 Pale .70 No. 3	-.25	-.25

BLACK OIL (bbls.)				
25-30 cold test	.14	-.15	.14	-.15
15 cold test	.15	-.15½	.15	-.15½

MEDICINAL OILS (Cooperage Basis) (Penna. Stocks)	Nov. 30	Nov. 23
Domestic .875-.885 s.g. drums	1.00-1.08	1.00-1.08
Domestic .865-.870 s.g. drums	.75- .80	.75- .80
Russian .885-.890 s.g. 325-330 vis. drums	1.25-1.20	1.25-1.25

WAXES (Penna. Stocks) (F. A. S. Carload Lots)		
WHITE CRUDE SCALE		
122-124 A. m. p.	-.05¾	-.05¾
124-126 A. m. p.	-.05¾	-.05¾
MATCH		
105-108 A. m. p.	-.06	-.06
FULLY REFINED		
120-122 A. m. p.	.06¾	-.06¾
123-125 A. m. p. Philadelphia	.06¾	-.06¾
125-127 A. m. p.	.06¾	-.06¾
128-130 A. m. p.	.06¾	-.06¾
130-132 A. m. p.	.06¾	-.06¾
133-135 A. m. p.	.06¾	-.06¾
135-137 A. m. p.	-.07¼	-.07¼
SEMI REFINED		
122-124 A. m. p.	-.05¾	.05¾
YELLOW CRUDE SCALE		
124-126 A. m. p.	.05¾	-.05¾

PETROLATUMS (Penna. Stocks)		
Dark Green	.02¾	.02¾
Veterinary	.03¾	.03¾
Light Amber	.03½	.03½
Dark Amber	.03¾	.03¾
Cream	.06½	.06½
Lily White	.08½	.08½
Snow White	.10½	.10½

N. Y. Export Quotations

Illuminating Oils
Standard Oil of New Jersey

	Nov. 30	Nov. 23
Bulk, gal., Bayonne	.....	.....
Barrels, gal., Bayonne, cargo	.....	.....
Cases, gal., Bayonne	17.65	17.15

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

Gasoline-Naphtha
(Cents per Gallon)

U. S. Motor, dead bulk	.....	.....
U. S. Motor, cases	27.15	27.15
Export Naphtha bulk	.....	.....
*62-63 deg. bulk	.....	.....
66-68 deg. bulk	.....	.....

*Grade changed from 64-66 to 62-63 Jan. 9.

Tide Water Oil Company
(f. o. b. Bayonne)

58-59 deg. bulk	.....	.....
58-59 deg. cases	27.15	27.15
Export grade, U. S. Motor Specifications bulk	.....	.....
68-72 deg. bulk	.....	.....

	Bulk Barrels	Cases
Standard white 110	.....	17.65
Water white 150	.....	18.65

The Texas Company

Gasoline, cases	27.15	27.15

Kerosene	Bulk Barrels	Cases
Standard White	.....	17.65
Prime White	.....	18.15
Water White	.....	18.15

Gulf Export Market

Gasoline

	Nov. 30	Nov. 23
U. S. Motor, Cargo	.11 -.11½	.11-.11½
60-62 400 e. p. Bulk	.14	-.13¼
64-66, 385 e. p. Bulk	.14¼-.15	.14¼-.15
U. S. Motor, Cases (cargo lots)	2.25	2.25
64-66, Cases (cargo lots)	2.55	2.55

KEROSENE		
Water White, bulk	.07¼-.07½	-.07
Prime White, bulk	.06¼-.06½	-.06
Water White, cases (cargo lots)	1.75	1.70
Prime White, cases (cargo lots)	1.65	1.60

GAS AND BUNKER OIL		
26-28, gravity, bulk. Transp.	.04¾	-.04½
32 plus, bulk, Dark	.04½	-.04¾
Grade C, Bunker oil	1.50-1.60	1.50-1.60

MEXICAN CRUDE AND BUNKER OILS		
Heavy, f.o.b. Tampico, Taxes to be added	1.20	-1.20
Mexican Grade C, Bunker oil F. O. B. Tampico Taxes paid	1.40	1.40
Mexican C, Bunker oil New Orleans	1.50	1.50

Lubricating Oils
SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

	Nov. 30	Nov. 23
100 Vis. No. 2 Unfiltered Pale	.07	.07
150 Vis. No. 2½ Unfiltered Pale	.09½	.10
200 Vis. No. 3 Unfiltered Pale	.11½	.11½
300 Vis. No. 3 Unfiltered Pale	.13	.13½
500 Vis. No. 3½ Unfiltered Pale	.15	.15½
200 Vis. No. 5½ Red Oil	.10	.10½
300 Vis. No. 5½ Red Oil	.11½	.12
500 Vis. No. 6 Red Oil	.14	.14
800 Vis. No. 6 Red Oil	.18½	.19

Advances Continue to Rule in Pennsylvania

CLEVELAND, Nov. 30.—Comparing the latest quotations in the Pennsylvania field with those of a week ago the majority of products have advanced from ¼ to over 1 cent. General conditions continue to improve daily and refiners report goods moving in greater volume than heretofore. There have been many foreign inquiries during the past week and with the advance in crude oil prices have been steadily on the upgrade. A scarcity still exists in the neutral and cylinder stocks. The 220 grade of viscous neutral has advanced to 27 cents although some sales are being still made at 26. Wax seems to be the only product that has declined. White crude scale of the 122-24 grade can be bought at 5¼ cents which is the lowest it has been for several weeks. Kerosene and fuel oils are enjoying a very active market.

Benzol Market Tighter

NEW YORK, NOV. 30—Sentiment among benzol interests is decidedly more bullish than a week ago, which is attributed to the upward tendency in gasoline. Motor benzol demand has been unusually good so far this month, regardless of the slight decline in consumption due to less favorable weather. Leading marketers are still asking 23 cents a gallon for motor benzol in tank cars at the ovens, and say that there is little chance of any lower prices in view of the steady demand.

Pure and 90 per cent grades have also been enjoying a good demand. Export demand for the motor benzol is picking up but the sellers are reticent to take on foreign business feeling that they have all they can do in taking care of standing contracts.

British Importations

During the week ended Nov. 2 there were 27,909,250 gallons of petroleum imported into the United Kingdom. Larger receipts were:

Consignee	Imperial Gallons	Product	Port of Origin
London—			
Lube Producers.	614,483	Lubes	P. Mexico
Anglo-Mex.....	130,796	Fuel Oil	Tampico
Texas Oil Co...	606,094	Gasoline	Pt. Arthur
W. H. Brown...	1,675,869	Gasoline	St. Rose, La.
Lubes, Fuel Oils.	277,200	Gas Oil	Pt. Arthur
Lubes, Fuel Oils.	189,600	Gas Oil	Pt. Arthur
Lubes, Fuel Oils.	282,000	Lubes	Pt. Arthur
Russian Oil....	1,900,629	Gasoline	Batown
Shell.....	1,163,453	Benzine	N. Orleans
Shell.....	2,270,302	Crude	Curacao
Shell.....	1,575,150	Crude	Curacao
Shell.....	686,713	Crude	Tampico
Shell.....	310,524	Gas Oil	Beaumont
Shell.....	422,978	Gas Oil	Beaumont
Anglo-Amer....	2,454,460	Kerosene	Avondale
Dartmouth—			
Anglo-Amer....	2,443,930	Fuel Oil	B. Rouge
Southampton—			
Brit-Mex.....	2,238,431	Crude	Cuba Isles
Swansea—			
Nat'l Ref.....	2,514,585	Crude	Abadan
Aberdeen—			
Shell Mex.....	589,472	Fuel Oils	Trinidad

Crude Oil Prices All Fields

ALL PRICES EFFECTIVE, *Nov. 30*

EASTERN FIELDS
Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Allegheny, N. Y. District)	$3.40
Bradford District Oil in National Transit Lines (Bradford District)	3.40
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.25
Penna. Grade Oil in Buckeye Pipe Lines (Ohio)	3.05
Gaines, Tioga Co. (Pa.)	$2.95
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.10
Corning Grade in Buckeye Pipe Lines (Ohio)	1.95
*Somerset Medium in Cumberland Pipe Lines (Kentucky)	2.20
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.35
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.15

*Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.

Wooster	$2.00	Indiana	$1.78	Plymouth	$1.40
Lima	1.98	Princeton	1.87	*Canadian Petrolia	2.38
		Illinois	1.87	*Posted by Imperial Oil, Ltd.	

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS
(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and Central Texas.)

*28-28.9	$1.15	37-37.9	$1.87
29-29.9	1.23	38-38.9	1.95
30-30.9	1.31	39-39.9	2.03
31-31.9	1.39	40-40.9	2.11
32-32.9	1.47	41-41.9	2.19
33-33.9	1.55	42-42.9	2.27
34-34.9	1.63	43-43.9	2.35
35-35.9	1.71	44 and above	2.43
36-36.9	1.79		

*Effective Nov. 1, Prairie announced to its present customers that it would deduct 8c per barrel for every degree below 28 gravity on Mid-Continent and North Texas crude. It will pay $1.07 for 27-27.9, 99c for 26-26.9, etc. New quotations are not added to present schedule inasmuch as Prairie is not in the market for new connections on this low gravity crude.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes, all in Texas.)

Effective Nov. 21, Humble posted same gravity and price schedule as that maintained by Prairie, excepting that Humble is paying $1.07 for all oil below 28 gravity.

Magnolia Petroleum Co. Prices
In Oklahoma, Kansas and North Texas

Effective Nov. 23, Magnolia posted same gravity and price schedule as Humble, in all fields where it purchases on a gravity basis.

Effective Nov. 23, Corsicana heavy was advanced to $1.05.

NORTH LOUISIANA—ARKANSAS FIELDS
***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 32	$1.65	Haynesville, below 33	$1.55	Smackover, 24-24.9	$1.15
do 32-34.9	1.75	do 33 and above	1.65	do 25-25.9	1.20
do 35-37.9	1.85	El Dorado, below 33	1.55	do 26-26.9	1.25
do 38 and above	1.95	do 33 and above	1.65	do 27 and above	1.30
Homer, below 31	1.40	Bull Bayou, 32-34.9	1.45	De Soto	1.80
do 31-32.9	1.55	do 35-37.9	1.60	Crichton	1.60
do 33-34.9	1.65	do 38 and above	1.75	Bellevue	1.65
do 35 and above	1.75	Smackover, below 24	.85	Cotton Valley	1.10

*Same prices maintained by The Texas Co. and Gulf Production Co. The Texas Co. buys in Caddo, Bull Bayou, De Soto, Crichton and Smackover fields.

STEPHENS, ARKANSAS
Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.40	Below 26	$1.20

SMACKOVER, ARKANSAS
Prices of Louisiana Oil Refining Corp.

Below 24	$0.85	25-25.9	$1.25	27 and above	$1.35
24-24.9	1.15	26-26.9	1.30		

SMACKOVER, ARKANSAS
Prices of Atlantic Oil Producing Co. and Shreveport-Eldorado Pipe Line Co.

Below 24	$0.90	25-25.9	$1.25	27 and above	$1.35
24-24.9	1.15	26-26.9	1.30		

GULF COASTAL FIELDS
(Posted by Humble Oil & Refining Co., The Texas Co., Gulf Production Co., Sun Oil Co. and Sinclair Crude Oil Purchasing Co.)

Grades A	$1.50	Grades B	$1.25

Goose Creek, Hull, Orange and Pierce Junction are the only Gulf Coastal fields that have A and B grade classifications. All other fields are classified as A grades only.

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co.

†Salt Creek 29-29.9	$1.23	36-36.9	$1.79	Rock Creek	$1.75
30-30.9	1.31	37 and above	1.87	†Osage	1.90
31-31.9	1.39	Elk Basin	1.90	†Cat Creek, Mont.	1.90
32-32.9	1.47	Grass Creek light	1.90	Sunburst, Mont.	1.55
33-33.9	1.55	Big Muddy	1.75	†Hogback, N. Mex.	1.95
34-34.9	1.63	Lance Creek	1.90	Artesia, N. Mex.	1.45
35-35.9	1.71				

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin. The Texas Co. buys Salt Creek crude.

CALIFORNIA
Prices of Standard Oil Co. of California

Standard Oil Co. of California on Sept. 22 reduced California crude from 10 to 35 cents per barrel and posted 19 new price classifications in the various fields. Instead of paying the same price for the same gravity of oil in all fields regardless of the value of the oil, as it previously has done, the Standard put into effect a new schedule which provides a different schedule of prices for each field and takes into account the varying values of oils of the same gravity in the different fields.

On Oct. 27, it further reduced heavy oils in amounts ranging up to 15 cents. New base price for heavy oils in the San Joaquin Valley is 75 cents, in Southern California fields, 85 cents, and in the Rosecrans-Dominguez, Santa Maria and Ventura county fields, it is $1 per barrel for 14 to 14.9 gravity. Light oils remain unchanged.

The new complete schedule of prices in California can be obtained from the editorial department of National Petroleum News on application.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Nov. 30	Nov. 23
Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums.....cwt.	- 1.70	- 1.70
Sal Soda wks.....cwt.	1.10- 1.25	1.10- 1.25
Caustic Soda 70% solid..cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....	-2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	-10.50	-10.50

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	12.8	12.8
February.....	12.8	12.8
Tanks, spot.....	12	12
Boiled carloads spot.....lb.	12.9	12.9
*Soya Bean spot, Bbls....lb.	13½	13½
Animal Oils—		
English Degras.....lb.	.05½	-.05½
Domestic Degras, bbls., carloads.....lb.	-.04½	-.04½
*Horse.....lb.	-.10	-.10
Oleic Acid—		
Dist. Bbls.....lb.	.11½-.12	.11½-.12
Saponified Bbls.....lb.	.11½-.12	.11½-.12
Castor Oil—		
No. 3 Carlots, Bbls.....	-.15	-.15
No. 1 Carlots, Bbls.....	-.15½	-.15½
Lard Oils—		
Prime		
Winter Strained. 1 to 1½ffa.40‡45c.t.lb.	.19¼	.19⅜
Extra		
Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.15¾	.15
Extra..... 4 to 5 ffa.40/45c.t.lb.	.14¼	.14¼
Extra No. 1 7 to 10 ffa.40/50c.t.lb.	.14	.13¾
No. 1.....15 to 18 ffa.40/45c.t.lb.	.13¾	.13½
No. 2.....22 to 23 ffa.40/45c.t.lb.	.13½	.12¾
Prime Edible Tallow under 1½ffa. 40/45c.t.N.Y.....lb.	-.11¼	-.11¼
Tallow acidless.....lb.	-.12¾	-.12¾
Lard Stearine.....lb.	-.18½	-.18¾
Oleo Stearine.....lb.	-.14½	-.14
Neatsfoot Oil—		
Pure.....bbls.-lb.	.15¼	.14¾
Extra.....do lb.	.14	.13¾
No. 1.....bbls.-lb.	.13¾	.13½
Cold pressed.....lb.	.18¼	.17¾
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	-.70	67-.70
White.....gal.	-.72	70-.72
Yellow bleached.....gal.	-.73	73-.75
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal.....gal.		Nominal
Naval Stores—		
Turpentine, N. Y.....gal.	1.09	1.10
Turpentine†.....gal.	1.03	1.05
Rosin, B. N. Y.....Bbl.	15.50	15.60
Rosin, F. N. Y.....Bbl.	15.50	15.60
Rosin, B†.....Bbl.	14.00	14.10
Rosin, F†.....Bbl.	14.00	14.10
Rosin Oil 1st run.....gal.	.82	.85
Rosin Oil 2nd run.....gal.	.87	.90
Pine Tar—		
Kiln Burnt.....Bbl.	15.50	15.50
Retort.....Bbl.	15.50	15.50

†Savannah, Ga. market.
*Nominal.

Alcohol—		
Formula 6		
Bbls.....gal.	-59¼	59¼
Drums.....gal.	-52½	52½

Refiners, Compounders Supplies Higher

By Special Correspondent

NEW YORK, Nov. 30.—Following is a review of the markets for oils and supplies used in compounding and refining;

Animal Oils slightly higher. Lard oil demand better at slight advance. Stocks somewhat depleted. Tallow oil demand better. More interest in domestic degras. Oleo stearine firmer. Oleic acid demand slightly better. Neats-foot oil tending higher.

Fish Oils crude menhaden oil up 2 cents. Now 53 cents gallon, tanks, factory. Light pressed menhaden oil, barrels, New York up 2 cents, now 70 cents. Stocks depleted. Demand improving. Carry-over of crude oil light. Whale oil marking time.

Bleaching Powder demand for contracts improving. Prices firmer. Spot movement routine. Little fresh buying for prompt delivery.

Alcohol demand better. Denatured steady. Resale offerings slightly larger.

Soda Ash steady. Better demand for 1926 delivery. Stocks moderate. Outlook bright. Spot stocks depleted. Export inquiry better.

Caustic Soda demand better than expected. Stocks in consumers' hands small. Export interest keener. Demand chiefly for contracts over first six months 1926.

Linseed Oil sluggish. Big buyers purchasing hand-to-mouth, in anticipation of break in prices. Fair sized contract deliveries keeping stocks from piling up. Flaxseed fluctuations narrow. Boiled oils dull. Soya bean oil marking time.

Castor Oil demand lagging. Tendency trifle easier. No price changes. Stocks moderate.

Naval Stores firm. Slight reactions noted but general tendency upward. Trade looks for steady advance owing to diminishing supplies and receipts. Consumption large for this time of year. Turpentine spot stocks low. Rosins also offered sparingly. Rosin oils in better demand.

Gasoline Manufacturers Revise Color

TULSA, NOV. 30—A slight revision in the official specifications for natural gasoline has been made by the Association of Natural Gasoline Manufacturers it was announced this week by A. V. Bourque, secretary. The change was merely to clarify the color specification in the former set.

When the last revision was made on Oct. 1, 1924, it was published that the color of all natural gasolines should be water white, plus 25 Saybolt. The new specifications provide atht all products must be plus 25 Saybolt. The color must thus be crystal white which is better than water white. Confusion resulted from the former publication due to the fact that two colors were actually made satisfactory, water white and crystal white.

CHICAGO, Nov. 28.—All members of the board of directors of the Standard Oil Co. of Indiana will go to Muskeegon, Mich., on Tuesday, Dec. 1, where R. W. Stewart, chairman of the board, will deliver an address at the "Greater Muskeegon" banquet given by the Exchange Club of that city. His subject will be "Western Michigan and Big Business." All business organizations and clubs in town have joined in for this banquet.

California Standard First To Erect Aerial Signs

SAN FRANCISCO. Nov. 30.—The first effort to establish guide-signs for aviators along airways is being made by the Stndard Oil Co. of California, which has just inaugurated a campaign to erect a system of these signs along the airways of the Pacfic coast states. Names of towns will be painted on the roofs of the company's buildings, after the army air service has designated points which should be marked. The company is further offering its co-operation to the naval air service, the air mail service and commercial fliers.

With its more than 650 distributing plants in California, Washington, Oregon, Nevada, Arizona, Idaho and Utah, each of which has a warehouse on the roofs of which guide-signs will be posted, the Standard is in an excellent position to assist in the development of aviation with these signs and to increase safety and certainty of air travel.

Roofs available for signs range from 530 square feet in small towns to several thousand square feet in the larger cities. The signs will be in large white block letters on a dark background, giving the highest possible degree of visiblity.

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Nov. 30	Nov. 23
U. S. Motor Gasoline, Tank Cars Delivered.....	-12¾	-12½
U. S. Motor Gasoline, Tank Cars Bayonne.....	-11¼	-11½
Kerosene, 45-150 W. W. Tank, Cars Del'd.....	-09¼	-.09
Grade C Bunker f.o.b.N.Y....	1.65	1.65
Diesel Oil f.o.b.Refinery.....	1.99½	1.99½
Gas Oil,36-40, Bulk Refinery..	-05¼	-05¼
Gas Oil, 28-34 Bulk, Refinery	-05	-05

OIL STOCKS AND FINANCES

Pacific Oil Earnings Expected To Eclipse Former Records

EARNINGS statement of the Pacific Oil Co. for the quarter ended Sept. 30, 1925, show net income of $3,969,158 after property reserves and Federal taxes, equivalent to $1.13 a share on the 3,500,000 no par capital shares. These earnings were approximately 48 per cent better than the net of $2,675,308 reported in the corresponding third quarter of the previous year, or 76 c. a share. For the first nine months of this year the net profits were 43 per cent ahead of the similar period of 1924, net amounting to $12,093,060, or $3.46 a share, compared with $8,482,115, or $1.03 a share in the first nine months of last year.

It is entirely probable that the full returns for this year will show a net of approximately $15,750,000, or $4.50 a share, which will be the best year the company has enjoyed since 1921. It is interesting to recall that 1921, the first year of Pacific Oil's independent operation following segregation from Southern Pacific, was the record year, net reaching $16,261,293 or $4.64 a share. Already the first nine months of this year are ahead of the full returns for 12 months of 1924, 1923 and 1922.

Aided by Higher Fuel Prices

Growth in earnings is largely due to higher fuel oil market and increase in its business generally, especially from Southern Pacific Railroad whose heavy fuel oil requirements are supplied by Pacific Oil. Though Pacific Oil's production consists mainly of light oil it has a working agreement with a number of Pacific Coast companies whereby it exchanges its high gravity crude for fuel oil. In this connection Pacific Oil's control of Associated Oil, in which it owns a 58 per cent stock interest, has proved advantageous in the oil exchange transactions.

On July 20 of this year the Pacific restored the dividend from $2 to $3 annual basis, which rate had previously prevailed in 1922. This action was primarily an outgrowth of the phenomenal earnings this year. The company is in strong financial position, having no funded or floating debt outside of its current liabilities, with the capital stock having the sole claim on earnings. At the close of 1924 company's cash assets aggregated over $10,800,000.

Oil

Pacific Oil's reserves are enormous in the State of California where its operations are mainly confined to. These reserves are located in five counties and comprise about 265,000 acres, practically all in proved fields. In Kern county alone Pacific's holdings are around 107,000 acres. It is in this county that Naval Reserves Nos. 1 and 2 are located. These are the United States lands which have figured so prominently in government proceedings against Pan-American Petroleum & Transport Co.

Last year Pacific Oil produced an average of 42,658 bbls. of crude a day, the best record since its independent operation from Southern Pacific. This compared with a daily average of 26,313 bbls. in 1923, 35,173 a day in 1922 and 38,485 a day in 1921 and slightly better than 25,000 bbls. a day in the six years prior to segregation from Southern Pacific Railroad in 1921.

Net income of the Pacific Oil Co. after all charges by quarters compares as follows:

	1925	1924	1923	1922	1921
1st quarter	$4,050,199	$ 2,917,074	$ 2,178,900	$ 2,825,794	$ 4,945,477
2nd quarter	4,073,702	2,889,733	2,356,290	3,980,657	5,039,716
3rd quarter	3,969,158	2,675,308	2,336,303	2,397,629	3,278,658
4th quarter	.....	3,411,650	2,066,589	2,588,146	2,997,442
Total	.....	$11,893,766	$ 8,938,111	$11,792,226	$16,261,293

Cleveland Stock Market

	Par	Nov. 27 Bid	Asked	Last Sale
Canfield Oil Co.	$100	108½	.....	115
do pfd	100	.....	99	100
Fred G Clark Co.	10	2¾	.....	2¾
National Refin. Co.	25	42	43½	42
do pfd	100	.....	135	128
Paragon Refin. Co.	25	7¾	8	8
do pfd	100	65	.....	65¼

x-Ex dividend

Mexican Panuco Oil Co.—200,000 additional shares of stock, par value $10 each, have been listed on New York Curb Market.

Cumberland Pipe Line Co.—Annual meeting will be held Dec. 3 at Winchester, Ky.

Pan-American Acquires Lago Petroleum

NEW YORK, Dec. 1.—Control of the Lago Petroleum Corp. has passed to the Pan-American Petroleum & Transport Co. interests headed by Col. Robert W. Stewart, chairman of the Standard Oil Co. of Indiana. This was announced here recently with the election of Col. Stewart; Fred H. Wickett, chairman and president of the Pan-American; Elisha Walker and George N. Armsby, Blair & Co., New York, and Edward R. Tinker, chairman of the executive committee of the Chase Securities Corp., as directors of Lago.

A new company known as the Lago Oil & Transportation Corp., has been incorporated under the laws of Delaware with 3,000,000 shares of no par A. stock and 1,000,000 shares of no par B stock. Controlling interest will be owned by the Pan-American.

The new company will own a controlling interest in the Lago Petroleum Corp., which operates concessions in the Lake Maracaibo basin in Venezuela, and all of the preferred stock and 50 per cent of the common stock of the Lago Oil & Transportation Co., Ltd., of Canada. The last named corporation was organized in May, 1924, by the British Mexican Petroleum Co., Ltd., which in April, 1925, was taken over by the Pan-American. The British Mexican has since been resold to the Anglo-American Oil Co., former Standard Oil subsidiary, but the Pan-American's interest in Lago was retained.

Mr. Wickett has been elected chairman of the board of Lago Petroleum Corp., succeeding Frederick W. Baker who resigned.

The Lago's production is said to exceed 30,000 barrels daily. The company late in October brought in a well at Ambrosio nine miles from the La Rosa field. This test well flowed 4000 barrels initial. It is about a mile off shore in Lake Maracaibo.

Phillips Petroleum Raise Dividend to $3.00 Basis

CLEVELAND, Dec. 1.—Phillips Petroleum Co. declared a quarterly dividend of 75 cents placing the stock on a $3.00 annual dividend basis, compared with a previous rate of $2.00 last year.

The dividend is payable January 4th. to stock of record December 21st. This dividend applies also to the 25% additional stock to which shareholders of record November 25th. have the right to suscribe at $40.00 a share.

Transactions In Oil Shares on New York Stock Exchange

1924 High	1924 Low	1925 High	1925 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Nov. 28 Sales	First	High	Low	Last	Chg'e
48	25	76	48	(sh)	200,000	N.P.	American Republics	.....	.....	100	63¾	63¼	63¼	63¼	—1¾
34⅝	27½	41½	32	$	50,000,000	$25	Associated Oil	50cQ	Oct. 26, 25	11,600	40	40½	39¼	40	+1
140⅝	78½	117½	95½		50,000,000	100	Atlantic Refining	.....	June 16, 24	3,400	107	110½	104¾	110½	+2
118	108	117¾	113½		20,000,000	100	do pfd	$1¾Q	Nov. 2, 25	200	116½	116½	116⅜	116⅜	— ⅜
23½	14	30	18¾		18,428,350	25	Barnsdall Corp. A	.....	Apr. 30, 21	7,900	24⅜	25⅜	24⅜	25	+ ¼
17½	10	24¼	16		3,713,275	25	do B	.....	Apr. 30, 21	500	23⅜	23¼	23¼	23¼	0
4¼	1	2⅜	⅜	(sh)	150,000	N.P.	Caddo Central O. & R.	.....	.....	200	½	½	½	½	— ⅛
29¾	19½	32⅞	23⅞	$	30,549,925	$25	California Petroleum	50cQ	Dec. 1, 25	30,000	31⅛	31¾	30¼	31	— ¼
63¾	31⅜	62¾	42½		19,832,300	100	General Asphalt Co.	.....	.....	7,600	56½	58½	56	57	+1
100	71½	101⅜	86½		7,416,000	100	do pfd	$1¾Q	Dec. 1, 25	200	99	99	99	99	0
45	38⅜	59	42		29,194,650	25	General Petroleum	50cQ	Sept. 15, 25	13,100	48¾	49¼	48¼	49⅜	+1
82½	61	85	59		25,000,000	100	Houston Oil Co.	.....	.....	2,900	71½	71½	69⅛	70	— ½
16¼	5¾	40½	13½	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Oct. 5, 25	18,551	30⅝	32½	30¼	31¼	+ ¼
7⅝	3¾	10⅜	5½	$	3,256,590	$10	Indian Refining Co.	.....	Dec. 15, 20	2,200	9	9¼	9	9¼	+ ¼
75	60	97	77		2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
1	¼	1½	¼		1,678,760	10	Kansas & Gulf Corp.	.....	.....	200	½	½	½	½	0
.....	.....	23¾	13⅝	(sh)	1,078,166	N.P.	Louisiana Oil Refining	.....	.....	5,800	17	17⅝	16½	16⅞	— ⅛
37½	24⅝	35½	20¾	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	3,900	25	26¼	24¼	24½	— ½
42	29	58¾	32⅝	(sh)	1,885,343	N.P.	Marland Oil Co.	75cQ	Sept. 30, 25	116,500	56¾	58½	55¾	57¾	+1⅜
190	190	250	225	$	45,942,800	$100	Mexican Petroleum Co.	$3Q	Oct. 20, 25	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	$100	do pfd	$2Q	Oct. 20, 25	.....	.....	.....	.....	.....	.....
25¾	14⅛	22¾	10¾	(sh)	945,989	N.P.	Mexican Seaboard Oil	.....	Nov. 15,24	5,000	11⅞	11⅞	11⅝	11¼	— ½
40¾	22⅝	38	26	(sh)	1,357,800	N.P.	Mid-Continent Petroleum (Cosden)	.....	Aug. 1, 23	41,300	36⅞	37½	35	36½	— ⅜
95	80	94½	83	$	6,718,000	$100	do pfd	$1¾Q	Dec. 1, 25	.....	.....	.....	.....	.....	.....
6⅞	1	3¼	⅝	$	26,013,700	10	Middle States Oil Corp.	.....	July 1, 23	2,300	1⅜	1¼	1⅜	1⅜	— ⅛
58¾	45	65¼	51⅜	(sh)	3,500,000	N.P.	Pacific Oil Co.	$1.50S.A.	July 20, 25	57,300	59¼	60¾	59¼	59⅞	+ ⅜
65	44¼	83⅞	59½	$	48,307,400	$50	Pan American P. & T.	$1.50Q	Oct. 20, 25	9,300	72½	73¾	70¾	72½	+ ¾
64⅝	41¼	84½	60⅜		90,476,200	50	do Class B	$1.50Q	Oct. 20, 25	76,800	73½	75	72⅝	74⅜	+ ⅜
.....	.....	44⅞	41⅜	(sh)	400,000	N.P.	Pan American Western B	.....	.....	6,300	42⅝	43	41⅜	42½	+ ¼
4⅜	1¾	5⅝	2¼	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	900	3⅜	4	3	4	+ ¼
42½	29	60½	37	$	2,935,200	$100	do pfd	.....	July 2, 23	199	38	38	38	38	0
42½	28½	47⅜	36¾	(sh)	1,925,152	N.P.	Phillips Petroleum	50cQ	Oct 1, 25	33,200	43⅝	44½	43	43¾	— ⅜
4½	1⅞	3⅝	1¼	$	29,622,925	$25	Pierce Oil Corp.	.....	.....	7,900	1¾	1¾	1¼	1½	— ⅜
36	20	40	22		15,000,000	100	do pfd	.....	Feb. 1, 22	100	24	24	24	24	— ¾
5¾	4¾	8¼	4¾	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	4,500	5	5⅛	4⅞	5	— ⅛
48½	22¾	32⅝	12⅞	$	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	7,700	14⅞	14⅞	12¾	14½	— ⅜
47½	42	47⅜	27		2,845,350	50	do pfd	.....	May 1, 25	200	31⅝	31⅝	31⅜	31⅝	+ ⅛
30¾	20	33¾	25⅛		75,959,250	25	Pure Oil Co.	37½cQ	Dec. 1, 25	10,000	26¾	27½	26½	26⅞	— ⅛
105¾	92	108½	103		13,000,000	100	do 8% pfd	$2Q	Oct. 1, 25	200	107	107	107	107	— ½
59½	40⅜	57¾	48¾	(sh)	820,436	13.40	Royal Dutch, N. Y. shares	$1.73½	Aug. 1, 25	100	53⅞	54¾	53⅞	54⅛	+ ⅜
42	33	45¾	39½	(sh)	105,575	£2	Shell Transport & T	$1.21	July 25, 25	400	44¾	45⅜	44¾	45¼	+ ⅛
22½	15¾	28¾	21⅝	(sh)	10,000,000	N.P.	Shell Union Oil Corp.	35cQ	Sept. 30, 25	15,600	24⅝	25	24½	24⅞	+ ⅜
99½	91½	106½	99½	$	20,000,000	$100	do pfd	$1½Q	Nov. 16, 25	600	104½	105	104½	104½	0
24	10¾	26¾	18⅝		7,207,090	10	Simms Petroleum Co.	50S.A.	July 1, 25	7,800	23¾	23¾	22⅝	23	— ½
27¾	15	24⅞	17	(sh)	4,484,450	N.P.	Sinclair Consolidated	.....	May 31, 24	23,700	20¼	21	19½	20¼	— ⅜
90	75	94⅛	78¾	$	18,190,200	$100	do pfd	$2Q	Nov. 16, 25	400	89¼	89¾	88	89	—1
29	17⅜	32½	21¾		20,966,500	25	Skelly Oil Co.	.....	.....	22,500	30⅜	31	29¾	30⅝	— ¼
68½	55½	67¼	51½		236,869,225	25	S. O. California	50cQ	Sept. 15, 25	6,500	55¾	56	55	55½	0
42¼	33	47½	38⅜		511,631,025	25	S. O. New Jersey	25cQ	Sept. 15, 25	35,200	43½	44	42⅞	43⅛	— ⅜
119⅜	115¾	119	116¼		199,972,900	100	do pfd	$1¾Q	Sept. 15, 25	2,100	117½	118	116⅞	116⅞	—1⅜
8⅜	2¾	6¾	2¾	(sh)	1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20,20	1,700	3	3	2¾	3	+ ⅛
45¾	37¾	53⅜	42¾	$	164,450,000	$25	The Texas Co.	75cQ	Sept. 30, 25	34,200	51⅞	52¾	51¼	52	+ ¼
15¼	8	23⅜	10⅞		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	12,800	15⅞	16¼	15¼	15⅜	+ ⅛
.....	.....	36¼	30¼	(sh)	2,017,719	N.P.	Tide Water Oil Co.	25cQ	Sept. 30, 25	11,600	34⅞	36⅜	34	36⅜	+1½
.....	.....	101	99½	$	25,059,000	$100	do 5% pfd	$1.25Q	Nov. 16, 25	2,300	99¾	100	99½	100	0
6¾	3¾	5⅞	3½	(sh)	3,742,029	N.P.	Transcontinental Oil Co.	.....	.....	28,700	4⅞	4⅞	4½	4½	— ⅜
39	35	43⅜	33	$	40,480,800	$25	Union Oil of California	45cQ	Nov. 10, 25	5,800	35⅜	36	35⅜	35¾	+1
132⅞	94	134	118		18,262,300	100	Union Tank Car Co.	$1½Q	Dec. 1, 25	500	130	130	126	127	—2
116¾	106½	117¼	113¼		12,000,000	100	do pfd	$1¾Q	Dec. 1, 25	200	114¾	114⅞	114¾	114⅞	0
29⅜	23¼	31¾	25½	(sh)	490,000	N.P.	White Eagle Oil & Ref.	50cQ	Oct. 20, 25	1,000	27¼	27½	27	27½	+ ½

*New High †New Low xEx-dividend Total Sales 701,750

Standard Oil Stock Traded In New York Curb Market

1924 High	1924 Low	1925 High	1925 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Nov. 27 Sales	First	High	Low	Last	Chg'e
13¾	14⅜	26¾	17⅝	£	3,000,000	£1	Anglo American	60¾cS.A.	May25, 25	1,600	17¾	17⅞	†17½	17½	— ¼
4⅞	2	4	2	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	400	2	2	2	2	0
16	5	12⅜	3	$	10,000,000	$10	do pfd	.....	.....	.....	.....	.....	.....	.....	.....
265	155	240½	205		1,000,000	$100	Borne-Scrymser	‡24S.A.	Oct. 15, 25	10	227½	227½	227½	227½	—2½
85½	51	72	54		10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 25	140	59	56	55	55½	+1½
52½	47⅜	74⅜	48¾		3,000,000	25	Chesebrough Mfg. Co.	62½cQ	Sept. 30, 25	400	71	71	68	68	—4
115	112	115	110		1,000,000	100	do pfd	$1¾Q	Sept. 30, 25	.....	.....	.....	.....	.....	.....
.....	.....	31⅜	21⅞		34,914,280	$10	Continental Oil (Maine)	25cQ	Sept. 15 25	15,800	24	24¼	23½	24¼	+ ¼
20	11¾	17½	10¾		1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	100	16½	16½	16½	16½	0
149	110¾	156	132		8,000,000	100	Cumberland Pipe Line	$3Q	Sept. 15, 25	.....	.....	.....	.....	.....	.....
105	74	96	66		5,000,000	100	Eureka Pipe Line	$1Q	Nov. 2, 25	80	67½	67½	67	67½	0
69¾	52	65	54		16,000,000	100	Galena Signal Oil	.....	June 30, 25	25	38¼	38¼	38¼	38¼	— ¾
118	100½	105	100		4,000,000	100	do new pfd	$2Q	Sept. 30, 25	.....	.....	.....	.....	.....	.....
116	110	114	103		2,000,000	100	do old pfd	$2Q	Sept. 30, 25	.....	.....	.....	.....	.....	.....
43¾	34½	76⅞	42½		43,750,000	25	Humble Oil & Ref.	30cQ	Oct. 1, 25	24,500	74⅜	75⅜	72¾	75	+ ⅜
161	120	154½	127		20,000,000	100	Illinois Pipe Line	$6S.A.	June 30, 25	160	140	142	135	135	0
.....	.....	34¾	27¼	(sh)	6,491,852	N.P.	Imperial New	25cQ	Dec. 1, 25	12,400	33¼	34	33	34	+1
100	66	84	60	$	5,000,000	50	Indiana Pipe Line	$1Q	Nov. 14, 25	90	63	63	62½	62½	0
24¾	16¾	31¾	22¼	(sh)	7,118,138	N.P.	International Petroleum	25c	Sept. 30, 25	128,200	29	*31¼	28⅞	31¼	+2¾
162	122	186	130½	$	188,247,100	100	Magnolia Petroleum	1⅞stk.	Oct. 5, 25	680	179½	181	179½	181	+ ⅞
25⅞	20¾	25½	18¼		6,362,500	12½	National Transit	25cQ	Sept. 15, 25	400	19⅜	19⅜	18⅞	19	0
97	54½	79	50		5,000,000	100	New York Transit	75cQ	Oct. 15, 25	220	53½	54¾	53½	54	+ ½
107½	72	88	78		4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 25	280	80½	80½	80½	80½	+ ½
79½	55	75	60¼		60,000,000	25	Ohio Oil Co.	50cQ	Sept. 30, 25	1,100	65	66¼	64¼	64¼	—1¾
43	27	44½	20		10,000,000	25	Penn. Mex. Fuel	50c	May 21, 25	.....	.....	.....	.....	.....	.....
54¾	49½	65½	45⅞		60,000,000	25	Prairie O. & G.	.....	July 31, 25	19,300	53¾	55¾	52⅞	55¾	+2
111	100	129¾	106		81,000,000	100	Prairie Pipe Line	$2Q	Oct. 31, 25	2,030	126½	*129¾	126½	129	+2¼
230	175	259	200		4,000,000	100	Solar Refining Co.	$5S.A.	June 20, 25	25	216	219½	216	219½	— ½
100	80½	103	29		10,000,000	100	Southern Pipe Line Co.	$1Q	Dec. 1, 25	110	69	71	69	69½	— ½
171	117	197	139		20,000,000	100	South Penn Oil Co.	.....	Sept. 30, 22	1,160	173	176	169	170	—3
89	68	84	53		3,500,000	100	Southwest Pa. Pipe Lines	$1Q	Oct. 1, 25	10	55	55	55	55	0
68⅜	54⅜	70	59½		223,756,258	25	S. O. Indiana	62½cQ	Sept. 15, 25	24,300	65	65⅜	63¾	65	— ¼
50¼	32½	46	30⅝		8,000,000	25	S. O. Kansas	.....	June 16, 24	1,600	32¾	33	31½	32	— ⅜
121¾	101	137	114¾		16,864,434	25	S. O. Kentucky	$1Q	Sept. 30, 25	700	133¾	134	132¾	133¾	—1
262	198	270	231		3,000,000	100	S. O. Nebraska	$5S.A.	June 20, 25	30	240	244	240	244	+2
48	37¾	48⅜	40		227,535,300	25	S. O. New York	35cQ	Sept. 15, 25	14,500	45	45¾	44⅜	45½	+ ¾
277½	275	369	338		14,000,000	100	S. O. Ohio	$2½Q	Oct. 1, 25	50	368	368	366	366	—3
336	115	123	116		7,000,000	100	do pfd	$1¾Q	Dec. 1, 25	.....	.....	.....	.....	.....	.....
81	20	27	12½		1,722,931	25	Swan-Finch Oil Corp.	.....	Nov. 1, 19	120	19⅜	19¾	19⅛	19¾	— ⅜
88½	56½	105½	80½		61,919,950	25	Vacuum Oil Co.	‡50cQ	Sept. 19, 25	6,900	101¾	102½	99¾	102½	+1¾
30	25	35	30		100,000	10	Washington Oil Co.	.....	Jan. 31, 22	.....	.....	.....	.....	.....	.....

Borne Scrymser $2 extra April 15 $4 extra Oct. 15 ‡Vacuum 50c extra Mar. 20, June 20, Sept. 19

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25 Broad St. New York

New York Bonds

Week Ended Nov. 27

	High	Low	Last	Ch'ge
Amer. Rep. Cor. deb 6s.	99⅞	99½	99½	— ¼
Associated Oil gold 6s..	102½	102	102½	+ ⅜
Atlantic Refg. deb 5s...	100	99⅞	100	+ ⅛
Barnsdall Corp. 8s....	105⅞	105⅛	105⅛	+ ⅛
Calif. Petrol. sf 6½s...	104¼	103⅝	103⅝	— ⅜
Empire Gas & F 7½s...	103½	102⅛	102¾	— ¼
Gen. Asphalt 6s.....	104	104	104	0
Humble Oil & R 5½s...	101¾	101⅛	101¼	0
Mid-Cont. 6½s.....	102	101¼	101½	— ⅛
Pan-Am P. & T. 7s....	106	105½	106	+ ⅛
Pan-Am P. & T. 6s....	109¾	108¾	109⅜	+ ¼
Prod. & Refnrs. 8s.....	110	109¾	109¾	— ¼
Sinclair con oil col 7s...	94⅜	94	94	— ¼
Sinclair con oil con 6½s	87¾	87	87⅛	0
Sinclair con oil 6s.....	106	103¾	104¼	—1½
Sinclair Crude Oil 6s...	101¾	100⅜	100⅝	0
Sinclair Pipe Line sf 5s.	88¼	86½	86½	— ¼
Skelly Oil 6½s.....	124½	121⅛	122½	—1
Superior Oil 7s.....	95	95	95	— ½
Union Oil of Calif 6s-A.	104	103	104	+ ¼
Union Oil of Calif 5s-B.	100⅞	100½	100⅞	0
Union Oil of Calif 5s-C.	95⅜	95	95⅜	+ ⅛

New York Curb Bonds

Week Ended Nov. 27

	High	Low	Last	Ch'ge
Atlantic Gulf & w.i. 6s..	73½	72¾	72¾	—1¼
Cities Service 6s.....	90⅝	90½	90½	0
Cities Serv. 7s "C"....	126½	126½	126½	0
Cities Serv. 7s "D"....	102	101⅜	101½	0
Cities Serv. 8s "E"....	111½	111½	111½	0
General Pet. 5s.....	94¾	94	94¾	0
General Pet. 6s.....	101⅜	101½	101⅜	— ⅛
Gulf Oil 5s.....	99⅞	99⅝	99⅝	— ⅛
Gulf Oil 5½s '26.....	100	100	100	0
Phillips Pet 7½s w.w..	104	104	104	+ ¼
Pure Oil 6½s.....	102½	102⅜	102¼	— ¼
S O N Y 6½s.....	107	106½	106½	— ¼
Sun Oil 5½s.....	98	97½	97½	+1⅜
Tidal Osage 7s.....	103¼	103⅛	103⅛	— ⅛
Trans Cont Oil 7s.....	96⅞	96	96½	— ⅜
Vacuum Oil 7s.....	105	104¾	105	0

New York Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions week ended Nov. 27 Sales	First	High	Low	Last	Ch'ge
.....	.....	11⅛	2½	....	Amer. Maracaibo..	5,100	7	7½	6½	7	0
7	4	8¾	5	$10	Arkansas Nat. Gas.	2,000	6⅞	7⅛	6⅝	6¾	+ ⅛
36¾	32	45¾	38	$5	British-American...	.....	.....	.....	.....	.....	.....
6¾	2¾	7¾	2¾	$5c	Carib. Syndicate...	5,700	6½	6½	6	6	— ½
.....	.....	43	35	$20	Cities Service	14,500	38⅜	38¾	38¼	38⅝	— ⅛
82¾	67¾	84⅝	80¾	100	do pfd.....	2,600	84¼	*84⅝	84¼	84½	+ ¼
7¾	6⅝	8	7¾	10	do pfd. B.....	600	7½	7½	7½	7½	— ¼
19	13¾	21¾	17½	10	do bankers' sh...	300	19¼	19½	19¼	19¼	0
1¾	.25	2¾	.60	N.P.	Colombia Syndicate	35,700	2	2	1¾	2	0
10¾	2¾	14¼	8¾	N.P.	Creole Syndicate...	10,800	11¼	11⅜	10¾	11¼	+ ⅜
.....	.....	12¾	6	N.P.	Crown Central	2,800	7	7¼	6½	6½	— ⅜
8	1½	7	3	N.P.	Derby Oil & Ref...	.....	.....	.....	.....	.....	.....
84¼	17½	27	15	N.P.	do pfd.....	.....	.....	.....	.....	.....	.....
.....	.....	4	1⅜	N.P.	Gibson Oil.....	12,600	4	4	3¾	3⅞	— ⅛
5¾	1¾	3¾	1⅜	N.P.	Gilliland v.t.c.....	100	1⅜	1⅜	†1⅜	1⅜	— ¼
67¾	56	85½	63½	$25	Gulf Oil Corp.....	11,200	82⅞	85	82⅞	84¼	+1¼
7	1¼	5¾	2¼	N.P.	Kirby Petroleum...	900	3½	3⅝	3¼	3⅝	+ ⅛
6¾	2⅜	7¾	4½	N.P.	Lago Petroleum ...	49,500	7⅜	7⅜	6⅞	7⅜	0
.....	.....	25⅞	18	N.P.	Lion Oil Refining..	6,000	25½	*25⅞	25¼	25½	+ ⅜
4⅞	4	4¾	1¾	N.P.	Marland of Mexico.	.....	.....	.....	.....	.....	.....
1¾	.50	5¾	.56	$10	Mexican-Panuco...	8,000	4½	4⅝	3⅞	4	— ½
1¾	.97	2	1	1	Mountain & Gulf..	100	1½	1½	1½	1½	0
20¾	16	24⅞	18¾	10	Mountain Prod....	9,500	24½	24½	24	24½	0
6¾	3½	6¾	3¾	5	New Bradford Oil..	6,400	6	6⅜	6	6	0
44	17	8¾	5	10	New England Fuel.	.....	.....	.....	.....	.....	.....
.....	.....	19¾	6¾	1	New Mex. & Ariz...	1,700	14½	15¾	14½	15⅝	+ ⅝
14	8¾	12½	8¾	25	New York Oil.....	600	10½	10½	10¼	10¾	— ¾
.....	.....	87	23¾	N.P.	Pan-Amer. Western.	.....	.....	.....	.....	.....	.....
6	.70	2⅛	.90	N.P.	Peer Oil Corp.....	7,000	1⅞	*2⅛	1⅞	2⅛	+ ⅛
18¾	12¾	28¾	16	$10	Pennok Oil.....	500	22½	22¾	22½	22¾	+ ⅛
57¾	5¾	44½	16	25	Red Bank Oil.....	400	21	21	19⅛	20	0
.....	.....	38½	9	N.P.	Reiter-Foster.....	4,000	20¼	20¼	18	19½	— ⅜
5½	3	9½	3½	N.P.	Ryan Consolidated.	900	5½	5½	5	5¼	0
10¾	6	9¾	6¾	$10	Salt Creek Cons....	3,600	9	9¼	8¾	9	+ ⅛
27½	19¾	31⅜	24	10	Salt Creek Prod ...	11,400	31	31	30⅜	31	— ¼
3¾	1¾	3¾	1	5	Savoy Oil.....	300	1	1	†1	1	— ¼
.....	.....	46½	33¾	N.P.	Sun Oil.....	.....	.....	.....	.....	.....	.....
16¾	6¾	13¾	9	10	Tidal Osage.....	100	10⅜	10⅜	10⅜	10⅜	—1⅛
4¾	2¾	4¾	1¾	5	Venezuelan Pet....	2,500	3½	3½	3	3	— ½
.....	.....	31¾	22¾	N.P.	Wilcox O. & G. new	1,000	27	27¼	27	27¼	0
18⅞	4¾	7	3⅞	N.P.	Woodley Petroleum	800	5¾	6⅛	5	5	0

Pittsburgh Stock Exchange

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended Nov. 27 Sales	First	High	Low	Last	Ch'ge
7	4	8⅛	5¾	$10	Arkansas Nat. Gas.	13,966	6¾	7	6½	6¾	0
40½	35¾	73¾	69¾	N.P.	Columbia Gas.....	.....	.....	.....	.....	.....	.....
.....	.....	18	14½	$10	Devonian Oil.....	165	16½	‡16½	16	16	0
.....	.....	112¾	105¾	$100	Duquesne Lt.7s pfd	.....	.....	.....	.....	.....	.....
30	30	110½	90	25	Fayette County Gas	.....	.....	.....	.....	.....	.....
33½	26¾	45½	32¾	25	Lone Star Gas.....	1,445	44¼	44¾	44¼	44¾	+ ¾
33¾	28¾	37¼	31	25	Ohio Fuel Corp....	5,431	34½	34⅝	34⅜	34½	0
16½	11¾	16¾	12¾	1	Ohio Fuel Oil.....	30	15	15	15	15	0
28½	22¾	32¼	26	25	Oklahoma Nat. Gas	535	31¼	31¼	31	31⅛	— ⅛
9¾	6	8¾	5	5	Pittsburgh O. & G..	168	5⅜	5⅜	5⅜	5⅜	+ ⅛
10½	6	9⅝	6¼	10	Salt Creek Cons....	1,519	8¾	9	8¾	9	0
16½	8	13⅛	8¾	10	Tidal Osage.....	100	11	11	11	11	0

Pittsburgh Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended Nov. 27 Sales	First	High	Low	Last	Ch'ge
.....	.....	18½	18½	....	Central Ky. Gas...	.....	.....	.....	.....	.....	.....
1	.20	2½	.60	$5	Colombia Synd....	.....	.....	.....	.....	.....	.....
.....	.....	15	13	N.P.	Devonian Oil.....	.....	.....	.....	.....	.....	.....
.70	.25	.60	.15	5	Duquesne Oil.....	.....	.....	.....	.....	.....	.....
9½	5½	9	5½	10	Forest Oil.....	.....	.....	.....	.....	.....	.....
66¾	57	85	64	25	Gulf Oil Corp.....	1,000	85	*85	85	85	+1
23¾	21	.....	.....	N.P.	International Pet..	.....	.....	.....	.....	.....	.....
.....	.....	12½	3¾	N.P.	Leonard Oil & Dvlp	5,750	8	8	7⅞	8	— ⅛
6	5	.....	.....	$10	Marshall Oil.....	.....	.....	.....	.....	.....	.....
.77	.35	.47	.26	10	Omar O. & G.....	500	.26	.26	.26	.26	0
.....	.....	.....	.....	....	Plymouth Oil.....	.....	.....	.....	.....	.....	.....
8	3½	7	3	5	States Oil.....	.....	.....	.....	.....	.....	.....
.....	.....	4	1 11	$1	Texon Oil & Land..	6,037½	3⅝	3¾	3	3¼	— ⅜
14	10	11	9	10	Tidal Osage.....	.....	.....	.....	.....	.....	.....

*New High †New Low xEx-Dividend